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Teachers College

Elementary School Curriculum

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The Curriculum of the Elementary School

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PREFACE

Any attempt to describe the work of a school must needs be inadequate, if not misleading. Class instruction is only a part of a school's activity, and not always the most important part. All schools have not the same end in view, and no good school feels bound to remain unchanged from year to year. Conditions change, and teachers and pupils change with them. What is possible and desirable to-day in a particular class may be undesirable to-morrow or impossible in the corresponding class next year. Indeed, conditions have so changed in the Horace Mann School since these studies were begun that present practice diverges widely in some important particulars from the standards herein set up. This series is offered, therefore, not as a guide to our own work, and still less as a model for others to follow, but rather as an account of one way of doing a particular piece of work.

A chief merit of these studies is the expression of the personality of the several teachers who have contributed to the series. A more readable book could doubtless have been written by one person. Certainly the elaboration of theory and its relation to practice would have been more consistent had the book been the work of one person—and that person outside the school. But teachers who are actually engaged in schoolroom practice will forgive the faults of joint authorship, provided they find evidence of an honest effort to solve concrete problems. Such evidence is not lacking. The difference in point of view and the dissimilarity in practice bear witness to the freedom these teachers enjoy in their daily work.

These studies show, too, a school curriculum in the making. It may not be an ideal curriculum; it may not be a curriculum of much value to other schools; but it obviously has significance in this school. As an indication of how means may be adjusted to ends, of how teachers of widely differing temperaments may be united in purpose, and of how a norm may be utilized to direct concerted action throughout a large institution, the study of the curriculum herein given is particularly worthy of attention.

Teachers College has no panacea for pedagogical ills. We have no fixed curriculum to present, and we do not prescribe any particular method of teaching. We do advocate scholarly attainments and richness of life for every teacher; we believe that in any given situation some courses of study and some methods of teaching are distinctly preferable to others; we would have our students know the meaning of education, understand its operations and give professional service in a rational, common-sense way. It is in this spirit that we give to the public this collection of essays.

JAMES E. RUSSELL.

Teachers College,
December, 1907.

INTRODUCTORY STATEMENT

In the following description of the Horace Mann Elementary School emphasis has been placed on the practical side of the work. It has been necessary, however, to refer to the general principles that underlie the work of the school and to state some of the peculiar problems that this school attempts to solve. In describing the activities of the pupils of the first grade the teachers have been compelled to explain the work of the children under the various typical studies of the curriculum. In the actual schoolroom experience, however, the work is not thus marked off. The children do not feel that their studies are thus differentiated.

The description of the first grade work has been prepared by the teachers of the first grade with the assistance of an advisory committee.

Advisory Committee

Henry C. Pearson, A.B., Principal.
Frank M. McMurry, Ph.D., Teachers College.
Mary F. Kirchwey, Sixth Grade Teacher.
Miriam C. Winchester, First Grade Teacher.

First-Grade Teachers

Miriam C. Winchester,
Edith C. Barnum.

The description of the work of the other grades has been prepared by the respective teachers of those grades, also with the assistance of an advisory committee.

Advisory Committee

Henry C. Pearson, A.B., Principal
Frank M. McMurry, Ph.D., Teachers College
Mary F. Kirchwey, Sixth Grade Teacher

Second-Grade Teachers

Evelyn Batchelder
Katherine Welles

Third-Grade Teachers

Mildred I. Batchelder
Mary H. Lewis

Fourth-Grade Teachers

Ida E. Robbins
Florence M. Marshall

Fifth-Grade Teachers

Mary G. Peabody
Laura B. Underhill
Lucy Dickson

Special Teachers—Fourth and Fifth Grades

Lucy H. Weiser, Manual Training
Ethelwyn Miller, Art
Elizabeth R. Fotheringham, Gymnasium
Helen Latham, Music

Sixth-Grade Teachers

Mary F. Kirchwey
Roy A. Kane
Mrs. Siegried H. Upton

Seventh-Grade Teachers

Lillian E. Rogers
Caroline W. Hotchkiss
Georgia F. Bacon

Special Teachers—Sixth and Seventh Grades

Egbert E. MacNary, Manual Training
Laura B. Whittemore, Manual Training
Ethelwyn Miller, Art
Helen Latham, Music
Edwin Fauver, Gymnasium
Mary D. Chesbrough, Gymnasium

Chlidren of the First Grade, Horace Mann School.

Elementary School Curriculum

FIRST YEAR

CONTROLLING IDEAS OF THE HORACE MANN ELEMENTARY SCHOOL

It is obvious that the teachers of a school should keep clearly in mind the ideals for which they are striving, otherwise there will be lacking that unity of purpose which is essential to intelligent and consistent progress. The following statements may be assumed to represent briefly the point of view of the Horace Mann School on certain phases of elementary education:

1. Education may be viewed from three standpoints. There is the child, the being to be educated, and viewed from that side education is development or evolution. When considered from the standpoint of knowledge, education is the acquisition of a certain body of facts that tradition considers necessary. But we can think of an individual only as related to the people with whom he lives, and consequently the social point of view becomes prominent. A narrow view of this social standpoint considers education to be preparation for the social relationships only.

No one of these views, however, is adequate in itself. The broader meaning of education includes them all, laying the stress, however, on the social side. Education then involves the development of the natural powers of the individual, and the acquisition of knowledge, so that he may become adjusted to the ideals toward which society is moving. Social efficiency is therefore, the best brief expression of our goal, emphasizing the capacity to do as well as to know.

2. It is generally agreed that the development of moral

character is a fundamental aim of education. As to the method of accomplishing this aim, however, there are many different opinions. The teachers of the Horace Mann School believe that the best type of moral training results from the application of the ideals of conduct suggested by literature, history, and the other subjects of our curriculum, in the daily experience of the child at school. Moral education results from the child's total school experience. This does not mean that the teacher is free from all responsibility for the moral development of her pupils, and that such development may be left to take care of itself. On the contrary, the true teacher keeps before her the transcendent importance of training for character. She values highly the ideals offered in literature and history, and holds herself responsible for utiziling the same for the establishment of good habits and right attitudes toward life. We do not, however, believe that formal moral training, involving fixed periods for instruction in morals, can be a potent factor in character building. Such instruction may result in a knowledge *about* virtue, but it does not promise that the child will be led to act differently, or that his character will be permanently affected, because it almost necessarily ignores interest and other principles of presentation.

The important point in moral training is that the child develop certain attitudes, or ways, of valuing acts, from which specific actions will naturally follow. The teacher should see that the child has an opportunity to express these attitudes appropriately in his conduct. The child, therefore, must *act* in the right way. He must be honest, truthful, and reverent until such action becomes a fixed habit of conduct. Consequently *formal* moral instruction should be given only when some suitable occasion has arisen in the life of the school which shows the need of such instruction, and which affords an opportunity for the child to act at once in the right way. As to informal instruction, any moral lessons that the teacher may wish to draw from literature or history are more effective, if the point is made by skillful suggestion rather than by direct preaching. The average child dislikes moralizing, but he is quick to see the right or wrong of a particular line of conduct. Furthermore, children are particularly sensitive to any discrepancy between profession and conduct, either on the part of the teacher or in the spirit and moral atmosphere of the school, and it is highly important that this sensitiveness be preserved by a very close association of the theory of conduct with actual practice.

We aim to have the child realize the moral obligations that participation in the life of the school imposes upon him. We wish him to feel that obedience, truthfulness, self-restraint, and altruism are necessary laws for him, because they are essential to the very existence of the school life in which he shares. In this way the motive for right conduct comes from within.

3. We believe that the child develops best through work that appeals to his interest. This does not mean that the child does not put forth effort, or that he does not exercise his will power. Neither does it imply individualism, in the sense that the child may act according to his whims or transient interests. It does mean, however, that the various activities of the school life shall be based upon the fundamental instincts and interests of the child, that all work shall be fairly within his comprehension and adapted to the stage of his mental development, and that his studies shall be so related to the life of society about him that they will appear reasonable and vital to him. When the work of the schoolroom is presented to the child from this point of view, he throws his whole energy into it, and exercises his will power to overcome the numerous difficulties that stand between him and the accomplishment of his purpose. And yet there may be passing phases in the development of many pupils when interest dies out. At this time it is the duty of the teacher, by her influence and authority, to assist the weak will of the pupil, and to insist that the assigned tasks be done. In the words of Prof. Paul Munroe, "Interest is essential as the starting point of the educative process; effort is essential as its outcome. The purpose of appealing to the interest of the child is to lead him to the point where he will put forth effort to master the unsolved problems, the undetermined relationships of his environment, whether of the schoolroom or of life."

4. An important part of the school life is the recitation. It is the center for increasing and organizing the experiences and activities of the pupils. Here pupils and teachers are working out problems in common; here mistakes are corrected, directions for further work given, and inspiration, received. The recitation is not merely an opportunity for the child to show his teacher

and his fellow students how much he has acquired, but it is the place for a free interchange of ideas between teacher and pupils—an interchange that will result in the corrections of errors of judgment and in the use of knowledge. It may be that at times the whole recitation is given over to showing the teacher what the pupil has done: but this giving out is only that the teacher may know what ideas need correction or further amplification. Its aim, however, is never solely to reproduce facts that the pupil has acquired, but also to provide him with such material and such suggestions as will help him to solve his problems for himself. Consequently the atmosphere of the recitation should be one of mutual helpfulness, and the pupil should look forward to it with interest and anticipation.

5. We do not believe that any one study should be the center to which all the other school work should be related. It is the child's social life, rather, that is the center of correlation. The various subjects of the curriculum are the lines of experience of the child, and the unifying principle in that experience is its relation to his social life. This relationship with his social life is the test by which the child measures the worth of the various work of his school life. Some subjects of the curriculum are, however, naturally minor centers of correlation to a greater extent than others, and this is so because, by the nature of their subject matter, they more effectively help the child to interpret his environment. For example, in the lower primary grades the study of certain phases of the primitive life of man is to a certain extent a center for correlation, and in the higher grades history or geography.

We do not believe in correlation as an end in itself, but rather as a means to an end, and that end is unity of the entire school experience. This unity is less marked in the upper grades than in the lower primary grades, for, as the experience of the child widens, it naturally and gradually differentiates into the customary subjects of the curriculum.

6. The child has a natural instinct to express himself in action. We believe that he is primarily a creative rather than a receptive being. The child desires to know his environment by personal experience, consequently through activity he is constantly expressing himself, and this world that he is building up he is comparing with the outside world. By this constant

self-expression and comparison he gradually comes to understand his environment and his relation to it. As a consequence, if we would place the emphasis in school work upon the activities of the child, we must select the materials of instruction from life as it comes within his personal experience. It is only in this way that the process of instruction affords the child an opportunity to express in some appropriate manner his own interpretation of the facts presented.

We believe that the child by nature has no marked tendencies to be either good or bad exclusively, but that he may develop in one direction or the other according to the influences that surround him: whence comes the importance of right instruction both in content and method, instruction that is so real and vital that he will readily appropriate it.

7. School children have a right to be happy. The school should not repress the joy of living, and if school life is conceived in the right spirit, if its activities are based upon the natural and legitimate instincts and interest of the child, it will not do so. We believe in freedom, that is as much personal freedom as is consistent with the rights of others, otherwise there will be no opportunity for growth in self-control. And yet the personal authority of the teacher must be respected, and this authority is exercised in the case of those pupils who have not yet learned to govern themselves. Its aim, however, is to lead to self-control, for we believe that the motives for right conduct should come from within. Discipline is no longer a problem of the school, because the relations between teachers and pupils are friendly, and because the pupils identify their own interests with those of the school.

H. C. P.

THE CHILDREN OF THE FIRST GRADE

Much has been written regarding child life in the poorer districts of great cities, but Colonel Parker used to speak also of the problems connected with the children of the "poor neglected rich." It is in attempting the solution of some of these problems that the Horace Mann School is now engaged.

The pupils entering the first grade of our school come from well-to-do homes. Many belong to professional families or to families engaged in art or literary pursuits. The parents are enabled to secure for their children such refining influences in the home as are imparted by good pictures, good books, good music, and the association with cultured friends. Many children spend the summer months in the country or at the seashore, and through their own observations, and because of the companionship of intelligent elders, are well informed on many subjects connected with nature. Their acquaintance with the best in children's literature, and the uniformly good language heard in the home, account for the comparatively few grammatical errors on their part and for a somewhat unusual vocabulary. Coming, as a rule, from homes in which the moral standards are high, they have had presented to them ideals of truth and honor and have developed a keen sense of justice.

On account of these advantages, our pupils have a basis for wider interests than children in many other schools. In certain respects they are at least a year in advance of children in the average public school.

The disadvantages in some degree peculiar to living in hotels and apartment houses often render it very difficult for the parents to furnish opportunity for good home training even when its value is highly appreciated. The development of a child is retarded by the restrictions due to the enforced conditions of his environment. The close proximity of other occupants of the apartment renders it necessary to suppress many of the natural activities of the child, such as running, jumping, dancing, and screaming. It is difficult to so isolate a play-room that there will be no fear of disturbing others.

Many of our children lack fair muscular development, although they are above the average in height, as shown by the physical examination reports. They also lack endurance, coordination, and nervous control.

When we think of the country child, who, at six years of age, rides the horse to water, climbs the trees and fences, plays out-door games, has regular tasks to perform, and in consequence is sturdy, muscular, and independent: and again of the East Side child, who has to assume the care of younger children in the home, to lift, to dress, to attend, we see where our children in comparison lack opportunities for physical developmment.

With every possible help the nervous system of the New York child undergoes a struggle to grow normally. A sufficient amount of sleep is difficult to obtain. Undisturbed slumber is even more difficult. The roar of the city, the clang of the street cars, the noises of the home, all tend to restless sleep. Then again, many young children are allowed to keep late hours and are over-stimulated by parties, and even by the theater and opera.

Further, the child is rarely, if ever, alone. Grown people suffer in nervous control, if never given an opportunity to retire from the presence of others. Why should not children suffer in the same way? The child often grows irritable because of the too constant supervision which is frequently unsympathetic.

A nervous child does not always find relief in the period of the day given to open-air exercise. It is difficult to make the daily promenade in the park or on the avenue, under the surveillance of a nurse, anything but a monotonous, uninteresting performance. The child needs opportunity for childish fun and frolic: the quieting, uplifting influence of the field, the forest, and the stream: the contact with the sand heap, the wild flowers, the green grass: and above all the abandon that is derived from old clothes. He needs to have the physical weariness that comes from healthful play. Some of the parents, realizing these matters, have secured the services of young men or women, students in the university or college, who take groups of two or three children for walks and excursions. Being sympathetic and intelligent, these guides enter into games or give direction to the walk so that the child has an opportunity for free play and real relaxation. But such provision is exceptional.

Again, some parents, in their ambition for their children, over-stimulate and overwork the brain. Simultaneously with their entrance into school many children begin music, dancing, and French and German, so that there remains little time for physical relaxation and free play. Frequently even the toys afford inadequate relaxation. They are of so complex a type that they excite the child's emotional nature with no corresponding motor reaction on his part, and he soon wearies of them and demands a new sensation. The French doll and the electric train do not satisfy the demands of a constructive imagination, nor do they afford the same reaction as the rag doll and the little wooden cart. There is often no love for the wonderful mechanical top, because there has been no effort on the child's part to make it, nor opportunity to clothe it with fancies of his own; therefore it is thrown aside with little regret. No matter how expensive the numerous toys the child possesses, he usually turns to some disgraceful, old, calico cat, rag doll, or battered tin soldier, that means more to him than all his other toys. The little child appreciates simplicity of form rather than complexity of mechanism. By constructing his own toys, he keeps that balance between the sensory and motor activities so greatly lacking in the city child. The latter would have better nervous control if he had more opportunity in his home to satisfy his desire for activity in a healthful way by pounding, sawing, cutting, and constructing. The desire "to make something" or "to do something" is a perfectly normal one and should not be inhibited, but rather directed towards something of real merit.

The child who comes to us with good Kindergarten training—and there are many such—has had a better opportunity to develop normally in this respect, for these constructive instincts have been accepted as a good basis for his work in the Kindergarten and have become organized. From the imitative and imaginative activities he has been led to plan and execute a much wider and more serious line of occupations, occupations that give him a keener insight into home life and a better appreciation of it. For example; from "playing house" and using his blocks to represent people, furniture, walls, dishes, etc., he comes to the point where he wishes to construct a "real house." The Kindergarten teacher aims to gratify that desire by suggesting the construction of a doll house, the making of simple furniture, the setting of the table with toy dishes, the caring for the house with the toy broom, dust brush, etc. Through these and similar activities he has developed a certain power to organize his experience, has received a beneficial training in observation and attention, and has come to feel a degree of personal responsibility in execution. He has had his personal experiences enriched by those of other members of the group; has learned something of his social position outside of his own family circle; has come to realize that he is a member of a community that has the right to make certain demands upon him. Consideration for the rights of others has led to placing certain restrictions upon him. He has learned to share as well as to receive: to help as well as to be helped. This adjustment to a new environment has been found to be an extremely beneficial one to an only child, especially if he be shy and introspective, or selfish and domineering.

To summarize briefly; the Horace Mann School has a class of children who, in the majority of cases, are below the average in endurance, muscular strength, and nervous control. On the other hand, they are above the average in general intelligence, and are imaginative and receptive. They lack, however, concentration, application, and independence. Socially, they have polite manners, but they are irresponsible: not wilfully disobedient but rather slow to obey, and somewhat selfish and domineering.

M. C. W.

THE DEVELOPMENT OF THE SOCIAL SPIRIT

The effort is made to have in the schoolroom, as far as is consistent with classroom conditions, a home-like atmosphere. Our policy is to have the child realize that "he does not live unto himself alone," but rather that he has certain responsibilities toward others. With a larger circle than that of the home there come more definite demands upon him. He is now one among many and has not only his own rights, but also those of his classmates to consider. His relations to his fellows, to the class, and to the school are emphasized with the hope of creating an environment in which he may become self-governing.

Owing to their home influences and ideals, we practically never have children in the school with vicious tendencies. The majority are truthful, honest, and have a keen sense of justice. Their home associations teach them social customs and how to observe them. On the other hand, owing to these same home conditions, they are frequently dependent upon parents and servants, are often irresponsible and exceedingly careless about their own property. Some are inconsiderate of the rights of others. They have been the center of attention in the home, have become somewhat egotistical, and have acquired the habit of insisting upon immediate attention. While not wilfully disobedient they are slow to respond to a request, and frequently wait to question or to argue. They also lack a sense of personal responsibility due, in a measure at least, to the custom prevalent in many homes of paying money or giving reward for good behaviour.

From the nature of the activities undertaken and their method of presentation, it is possible for the personal relations between teacher and pupil to be very close. This relation generally extends to the parents and results in mutual co-operation for the benefit of the child. The school aims to have the child feel responsible as an individual for his own good conduct and for his example to others. Methods must be adapted to suit the needs of each case. A few of the motives suggested to the child are presented. If he is tardy in the morning, he is led to see that he is disturbing the class by his entrance; if he whispers unnecessarily, or creates a disturbance during a recitation, he is infringing upon the rights of the teacher and of the class, who are entitled to quiet and non-interruption; if he talks overmuch he is taking time not his own; if dilatory in performing his share of the work during a class exercise, attention is called to the fact that he is keeping the class from proceeding. The aim is to have freedom for the individual accompanied by thoughtfulness for others. When a child is continually indifferent or forgetful of those about him, he is separated from his class or denied the privileges accorded the others. Frequently this is sufficient. The exception must be treated as the case demands.

A class feeling is encouraged. Pupils coming as strangers are introduced to their classmates, who often show much kindly consideration and interest, trying to make the new comers feel at home. In the games the effort is made to have each child do his part for the pleasure of all, and not to be selfish or partial in the distribution of the honors. In the work of the gymnasium, where some children shrink from attempting certain exercises because of the fear of bodily harm, the more courageous ones are given an opportunity to help and encourage their classmates. Again, they are led to feel a responsibility for the visitors in the room, and are expected to so recite, read, or discuss, that their guests may hear and enjoy what is being presented.

The majority of children respond very quickly to the approbation of the class, and feel keenly the condemnation of their mates. With this in view the teacher seeks to establish a feeling of class honor. The children are sometimes left alone in the room and allowed to engage in work without direct supervision, or they are sent, as a class, from one part of the building to another, unaccompanied. They take great pride in being thus trusted.

A school spirit is also encouraged. While this does not appeal in any marked degree to little children there are phases that even the youngest may appreciate; for example,—an interest in the preservation of school property that keeps the children from disfiguring any portion of it; a regard for the comfort of people who are passing the building during recess periods; a pride in maintaining the good name of the school through orderly conduct upon the streets. A certain degree of *esprit-de-corps* results from the gathering of the pupils of all the grades in the auditorium for morning exercises. The little ones are interested and inspired by the older ones, while the latter are led to sympathize with and to protect the little ones whenever the opportunity is afforded.

In these various ways we aim to render the child a valuable, helpful member of the community.

M. C. W.

PRIMITIVE LIFE

Things mean very little to young children unless they are seen in relation to one another. They have not developed the power to see the meaning of the distinct subjects into which the mature mind has classified knowledge. Their only basis of relating new ideas is through experiences wherein feeling, thinking, and doing are conjoined in a natural way. In all such experiences the different elements are unified in the child's mind by reference to the self, to its needs, its desires, and its observations, and the new elements are appreciated just to the degree that they are perceived to relate to that self.

This great fact about children would seem to render it imperative that the basis of instruction in the early grades consist of typical social or community activities through which different elements of knowledge may be presented in natural relations.

The particular community activities that are made use of may be drawn from the present or from primitive life. Each field presents certain advantages and certain disadvantages.

When we undertake to give the child an idea of life as portrayed about him, we find that a presentation of the results achieved by man, as seen in existing social conditions, seems vague and meaningless because of the lack of perspective on his part from which to review the processes involved and the progress made. There are too many facts beyond his comprehension. If an attempt is made to force these upon the child, he gains only a superficial attitude towards the ideas presented, and there is little opportunity for self expression and invention. Since the complexity of the facts and the greater part of what they represent are not understood or experienced, they remain as something external and quite foreign to his life. The social and industrial processes involve a much more perfect technique for their interpretation than he is capable of.

The daily needs of primitive man, however, his resources, the activities necessary for the satisfaction of those needs, are all quite within the child's comprehension and ability to interpret. The intensity and dramatic quality of the situation appeal to his imagination. In fact, many anthropologists tell us there are certain identities in the child's interests with those of primitive life. There is a sort of natural recurrence of the child mind to the typical activities of primitive people: witness the hut which the boy likes to build in the yard, or his desire to play at hunting with his bows, arrows, and spears.

Another great possibility in regard to the study of primitive life is the sequential nature of the situations presented. Just as primitive man advanced toward civilization through the acquisition of power gained in the solution of his problems, so the child may develop in ability to observe, reason, invent, and execute through the problems presented. From the mastery of the more simple problems and activities he gains in capacity to understand and execute the more difficult ones.

The period of primitive culture selected for the first grade is that representing the simplest mode of subsistence and is commonly spoken of as the hunting and fishing period.

The aim is to confront the child in imagination with some of the fundamental conditions of such a period, and to bring him into active relations with the problems that such conditions present. His own relations to those same fundamental problems, and the present methods of overcoming them, serve to indicate to him the gulf that lies between himself and primitive man. Of course he cannot realize *all* that lies between, nor is it necessary that he should, but he may come to understand, in a limited way, how man's need has brought about his advancement, through reason, invention, experiment, and discovery. Dr. Dopp says: "The socializing power that comes from a well directed study of the past is secured chiefly through the recognition of the principle that, in the adaptation of the materials of the past, such a condensation of the experiences of ages should be telescoped into the activities of a few hours as corresponds to the parallel changes in the child's attitudes with reference to their more instructive origin. To attempt to carry the child through the actual stages of racial development in a minute way would be to arrest development; the child represents something of the present as well as of the past. Although the child enters sympathetically into the problems of primitive life, he never for a moment identifies himself with the people except in a dramatic way. He is looking down from above, and he knows it. At the same time he is leading up to a fuller realization of forces in his own life which, hitherto, have been unrelated."

In order that the child may realize the influence that climatic and geographical conditions have upon man, certain types are chosen as representative. For example: the cave dweller, the Indian of the plains, the dweller in the cold climate, and the dweller in the warm climate. Through a discussion of these types the effort is made to have the child realize that man must interpret his environment and adapt himself to it, overcoming obstacles that retard his progress.

The aspects of primitive culture to which most attention is given are the activities underlying food getting, provision for clothing and shelter, transportation, and communication. The forms of social organization that would naturally develop out of the different conditions are also discussed.

Because of the close relation and interdependence existing between the study of primitive conditions and the other activities of the school life, no fixed period of time appears upon the daily program for its presentation. The problems that it raises give many natural opportunities for art expression and for constructive activity, and at the same time for the development of ideas of number, science, language, and literature.

The method pursued to obtain the desired atmosphere is:

(1) To present problems for investigation that will arouse a questioning attitude,—questions that will call for reasoning, experiment, and invention; that serve to connect primitive life with modern; that give the child an opportunity to group his experiences and to use them in the interpretation of new problems.

(2) To use narration as a method of stimulating the imagination, thus aiding the child to obtain clear mental pictures.

(3) To present every kind of suitable illustrative material available, either in the museum connected with the school, or that may be seen in the American Museum of Natural History, or that the children may bring from their homes.

(4) To give opportunity for self-expression. The child's interpretation of the subject under discussion may be imaginative pictures, a pantomine, a song, a dance, or something that he has constructed.

As a suggestion of one among many possible methods of approach the following is presented:

By means of direct questions and discussion the child is asked to think of his home as a place of protection from enemies and the elements; as a warm, well-furnished, well-lighted spot containing various so-called necessities and luxuries; as a place where well-cooked, well-served food abounds. He is asked to think of the members of the family and their various occupations. Then the question of markets, shops, factories, etc., and their relation to his everyday life is discussed.

Next he is asked to imagine a place near a river, or in the woods, or on a hill, a place without any houses, shops, markets, farms, etc., a place with a climate similar to ours. How do you think man would get along in such a place? What would he need most? How would he obtain it? If he were on a wooded hill near a stream of water, what kinds of food might he obtain? If his food consisted of roots, nuts, and berries, would he have a sufficient supply at all seasons of the year? Could he gather food in the summer to eat in the winter? What would he do with it? If he had to take food from one place to another, how would he carry it? Do you know of any animals that store their food in the summer or fall?

On the nature study side, attention can be given to the nut-bearing trees, especially the chestnut and oak. After discussing the value of the nuts, and after observing on the campus how the squirrels carry them and store them for the winter, the children are brought to recognize the leaves, bark, and contour of some of the different trees.

In connection with the constructive work, the thought of man's need of some means of gathering food and of transporting it is discussed. The value of pieces of bark, large leaves, pieces of skin, empty birds' nests, etc., for holding the nuts and berries is talked over. Suggestions from the children as to various materials and methods result in the introduction of grasses, twigs, or rushes from which the children attempt to make baskets. The tying, coiling, and weaving of these materials are carried out by simple methods and lead to the making of baskets of other materials later on in the year.

Again in connection with the question of food supply, the thought of how animals obtain their food is developed. How would man catch the small animals? How would he escape from the larger ones? What would he do at night? Where would he stay in winter? These and other questions lead to attempts to devise a home on the sand-table. If you found a cave and it were occupied by a wild animal, how would you gain possession of it? How did primitive man? How did he prevent the animal's return? Of what use is fire to primitive man? How was it first produced? How do animals feel about it?

This Picture was Drawn after the Child had Read about the Mammoth Hunt in *The Story of Ab*

Selections from *The Story of Ab* are given to the children during these discussions that they may obtain clearer images and feel the interest that is incited by a personal hero and his experiences.

Primitive weapons are discussed and experiments made in their construction. Sticks and stones are gathered and a stone ax made by binding the stone to the stick with pieces of skin. An excursion is made to the Hudson River to gather materials and to make observations that shall render more vivid certain points connected with the points discussed. Questions similar to the following are asked: If there were no city here and it were a wild country, where do you think a cave might be found? Where would animals be likely to make a trail to the river? Where could men hide and hurl rocks upon them? If the stream overflowed, what would be flooded first? Would it drive the people out of the cave? Where could wood be found to build a fire? Do you see any rocks large enough to answer as a door to the cave? Do you see any trees bearing nuts? What animals store the nuts for winter? Have you seen any doing it? Do you see any trees that Ab could climb? Could you climb them? Can you find one that would make a good dug-out? Do you see a stick suitable for a handle for a stone ax? Can you find some stones for a stone club, or a scraping knife? Would you like to play a hunting game?

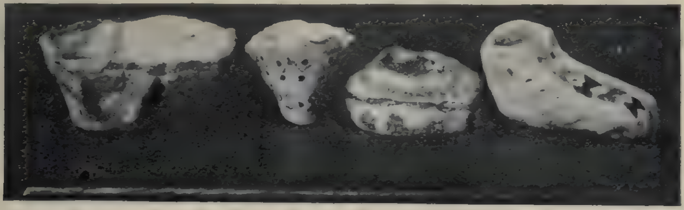
After this an excursion to the American Museum of Natural History is made to see how ingeniously primitive man constructed his weapons. In planning such an excursion the following method is pursued: The subject about which the children are to gather facts is discussed for several days previous to the visit, then they are asked to look for certain definite things and are told to report upon them. About one half-hour is long enough for a visit, as there is much to divert and tire them. It is better to go often than to stay beyond the time when they can profitably observe. After the visit notes are compared, and the children attempt to construct weapons and tools similar to those observed. For this they use the materials gathered in the excursion to the river.

Cooking Out-of-Doors

The children are very much interested in the question of fire and the early methods of making it. Last year one of the professors gave a demonstration before the class showing several primitive processes. The children, later, constructed a bow fire drill.

Several cooking lessons accompany these discussions. A fire out-of-doors is made and chestnuts are boiled in a vessel containing water that has been heated by throwing in hot stones. Chestnuts are also roasted and corn popped on the coals. Apples and meat are roasted on pointed sticks before the fire. These lessons serve to indicate to the child how primitive man prepared his food and what his trials were. Following these lessons, the children cook the same articles of food in the laboratory with all the modern conveniences. This emphasizes the progress of man in a vivid, simple way.

Cooking in the Laboratory



Clay Dishes Made and Decorated by the Children

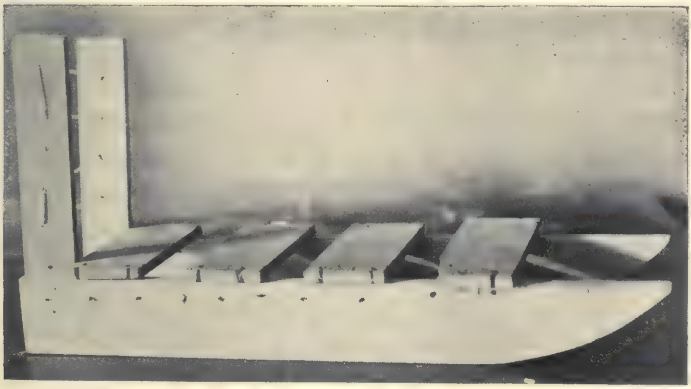
Again, in the study of the food problem, there appears the need of containing vessels. Preceding the making of clay vessels, questions as to the things probably first used are considered. Primitive man's invention, namely, the covering of gourds with clay; the incasing of fish in clay; the lining of baskets; the rolling and coiling of the clay in a similar manner to the baskets; the firing, etc., all serve to indicate to the child the evolution of the dish.

Later, with the introduction of more improved weapons, the child sees that man's strenuous efforts to obtain sufficient food are somewhat abated, and that he has more leisure. With this leisure comes an exchange of food, weapons, etc., with others. Through the common needs and interests, more frequent communication with other primitive men is established, opinions exchanged, and suggestions made.

The child and the savage have much the same tendencies toward decoration. With both there is the desire to ornament and the delight in simple, elementary colors. In both cases also there is the tendency to use pictorial decoration—decoration that tells a story. Design and its interpretation as seen upon early pottery and basketry, with the implied legends and stories forms an interesting parallel to the child's own work in artistic lines of a similar character.

During the winter months the children consider, in connection with their nature-study, such questions as these: The effect of cold upon the environment; the departure of the birds; the destruction of plants; the thickening of the fur upon animals; the need of warmer clothing; the direction of winds; the short days. These discussions prepare the child for an introduction to a country where no vegetation exists and where there are no birds, or small animals; where the days are dark, and the sun is seen only for very short periods—the land of the Northman or Eskimo. The questions of food, shelter, clothing, and transportation are presented for these new conditions, and comparisons are constantly made with the child's home life.

To add to the child's information and interest, he is taken to the American Museum of Natural History, where excellent representations of Eskimo life may be seen. His observation is directed by such questions as these: What weapons were used by the Eskimo in obtaining food? How many animals that he hunts in his country can you find in the Museum? What means of defense has each animal? How many and what animals does he hunt on land? How many in the water? What does he hunt them for? What is the difference between the fur of the white bear, walrus, or seal? How does the seal swim? Can you find the Eskimo's kayak? Of what is it made? Why? Where does he keep it when not in use? Why? How is it drawn? Why does he need such a long whip? Why does he have a back to the sled? How is the house made? How is it lighted and warmed? Where do the dogs stay? Where do the people sleep? How do they cook their food? What appears to be burning in the stone lamp? What animal eats moss similar to that used in cooking? What are the differences in clothing worn by the man, the woman, and the child? How are the leggings made? How are the clothes made? Do you see the needles, knives, and thread used in preparing the skins? How is the hair worn? What kind of dolls are used by the Eskimo children? Shall we see how many games we can find that the Eskimo children play? After noting these and related points in the Museum, the children present on the sand-table of the schoolroom a scene in the Northland. They make a hut, dress an Eskimo doll, make a sled (tying the parts together as the Eskimos do), a harness, and a whip of skin and wood. They model clay animals like the seal, walrus, polar bear, and Eskimo dog. The construction of the sled calls for exact measurements, thus furnishing the motive for a number lesson.



Eskimo Sled Made by the Children

They read lessons from *Around the World* descriptive of the Eskimo, and they memorize Frank Dempster Sherman's poems, *Wizard Frost*, *Winter*, *Winter Sports*. Snow scenes are drawn, one an imaginative picture representing Eskimo life, the other a view from the schoolroom window, while an Eskimo song found in the "Ethnological Reports" gives the child a true idea of primitive music. Thus various types of primitive life are presented to the children.

It may be evident from the examples given that the activities suggested by primitive culture afford many opportunities for the unification of the various subjects of the curriculum. It is felt that the child gains from this work a training in the association of ideas, because he is expected to bring to bear upon the subject under discussion all available knowledge; a training in using past experiences to interpret new ones, a training of judgment, an increase in the power of attention, a growth of the imagination, enlarged sympathies, and a feeling of responsibility in his social relations. Because the child is interested to know how primitive man grappled with the obstacles about him, how he invented ways of overcoming those obstacles, what resources he had to draw upon—for all these reasons, his own clothing, his shelter, his food, the nuts, fruits, trees, animals, birds, fish, grasses, reeds, the mountains, plains, rocks, forests, ocean, and streams, all come to have a new significance. Knowledge gained through his summer experience and by travel serves to enrich and clarify his ideas. Thus certain facts of daily life, that otherwise would have no meaning for him, become of vital interest, because they represent the stage of progress made by the race, and indicate to him how the past is related to his own complex civilization. The occupations of his elders have a new significance. He is interested because of his relation to these problems. He has new motives, and wishes to repeat some of the processes. He appreciates more fully the part that the *individual* has played in the *racial* development, and it helps to give him a feeling of personal responsibility in the work being done in the world about him. He comes to realize how, in the history of the race, some have helped and others have hindered, thus gaining a better idea of his own place in the social world.

M. C. W.

MANUAL TRAINING

Dr. Nicholas Murray Butler has said "Manual training is mental training through the hand and eye." In presenting this subject in our school, we aim to keep this fact constantly in mind; to preserve the balance between mental and motor activities; to use constructive work as a natural form of expression.

Through the work undertaken we also aim to have the child realize that the school is a genuine form of community life, and that he is a member of that community. By developing common interests and needs with his classmates we hope to have him learn a deference for the rights and opinions of others, to awaken a sympathetic co-operation and exchange of suggestions and helpful criticisms. Children come to be keen critics of each other's work, and yet are ever willing to help where it is needed. We find that honest criticism and appreciative comment often prove an encouragement to the timid child and an incentive to the slow and indolent one.

Through the problems that arise in the general work of the year we endeavor to have the child feel the natural need for constructive activity, and furthermore that the activity has either originated with himself or that it is his own interpretation of a problem; that the selection of proper materials and tools is his prerogative, and the discovery and correction of errors his privilege. By means of these experiences we hope to have him gain a certain degree of independence of thought and action, good judgment, a feeling of responsibility, habits of order and industry, and a critical attitude toward his own work.

Again by arranging the problems with reference to the technical difficulties, we aim to provide for the development of physical strength and muscular control. Consequently activities demanding the use of the larger muscles, such as sawing, planing, and hammering, are given early in the year; those calling for the finer co-ordinations, like simple sewing, weaving, and basketry, later in the year.

Lastly, through the presentation of many of these same problems we aim to have the children realize their social significance as types of the processes by which society has developed. They serve to bring home the primal necessities of life, and through a comparison with similar problems connected with his daily experience, such as food, shelter, and clothing, he begins to understand something of the progress of the race. Thus, in the selection and discussion of primitive activities such are chosen as appeal to the interest and understanding of the child and tend to organize his energies. With the savage these activities meant the preservation of life; with the child they mean the dramatic interpretation of a situation that is simple enough for him to comprehend and from which he learns how the first steps were taken by the race. He learns to respect the ingenuity displayed by the savage when he sees what the savage accomplished with no tools or very crude ones. He recognizes what has been accomplished by the race by means of the substitution of the finished tool, with which he works, for the crude implement with which the savage made his bow and arrow, or constructed his boat, sled, or hut. Through these discussions the child comes to realize in a small measure that the race has developed mentally "through the hand and eye."

The selection of the various objects to be constructed is influenced by the main lines of thought taken up during the year, many of which are suggested in the outline. Modifications are made from year to year as the needs of the class vary.

The character of the constructive work is determined by various considerations, among which are the following:

(1) The things made must stand for ideas of large, social meaning.

(2) They must be things that the child feels to be worthy of his best efforts.

(3) They must be of a nature calculated to represent the child's own expression of the subject under discussion.

(4) They must be simple enough for him to execute with little or no aid on the mechanical side. A child often has an idea that he is unable to express because of the mechanical difficulties involved.

(5) They must not be so complicated as to demand numerous directions and frequent assistance. This does not mean that the teacher is not to direct or assist, for at all times he may

lead the child to a clear image, or aid him to acquire the technique of the tool, by questions and suggestions. The temptation, however, is to help too much, for the teacher has in mind the finished product.

(6) They must not demand too long-continued application. In the child's early work it is not wise to undertake the construction of an object requiring too much time to complete, for, while an artificial stimulus may be used to some extent, the first interest is lost and the activity, instead of being a spontaneous one, degenerates into an act of drudgery.

The materials used are those which best illustrate the thought under discussion and which can be readily manipulated by young children. They must also be inexpensive and easily procurable. Among those which have been used are the following: wood (both prepared and in the form of twigs), clay, cloth, grasses, rushes, raffia, leather, cord, paper, cardboard, sand, and stone.

The tools in most common use are the hammer, saw, mitre-box, chisel, knife, scissors, and foot rule. They are of light weight and easily manipulated. As has been stated elsewhere, the child's physical development is below the average, and because of his undeveloped muscles he becomes easily fatigued, and therefore must have tools adapted to his strength.

The Children at Work in the Classroom

There are three directed lessons a week, each three-quarters of an hour long, but the children are free to go on with their work at any unoccupied period. They frequently come early to school in order to complete some piece of work in which they are interested.

The work is done in the classroom with the exception of the cooking which is carried on out-of-doors or in the laboratory. The children are led to feel a personal responsibility for their desks and are careful about marring them. Large sheets of paper or oilcloth serve to protect the desks when there is work with clay.

The worth and value of an activity to a child depend largely upon how far he can express himself in it, and how much of his power it takes to exhaust its possibilities. He is interested in a game of play just so long as it appeals to his imagination and offers an opportunity for expressing his own fancies.

The same is true of manual training, and the aim is so to present the subject matter connected with the various topics that there shall be (1) an interest awakened; (2) a desire to gain all the information possible concerning the object and the raw materials used in its construction; (3) a clear image of what he desires to make; and (4) perseverance in its construction.

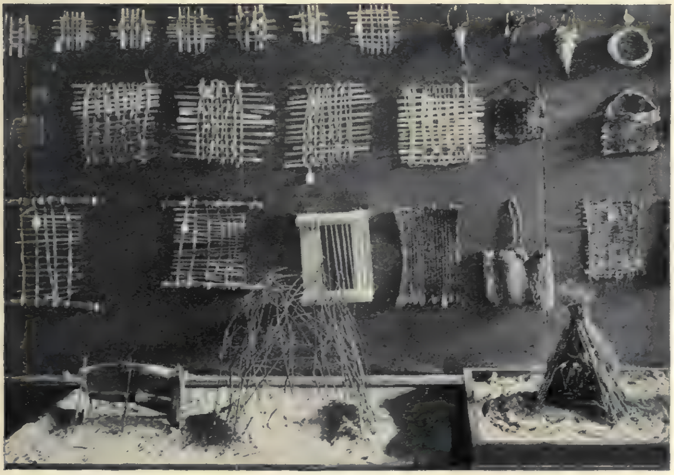
The constructive desire is a natural one with all children at this age, varying in strength according to the interest felt in the object to be made. If this desire is intensified by its relation to some subject under consideration that has a vital interest for the child, and if he feels he is expressing his own thought in his own way, in the execution of this desire, then comes the feeling of personal gratification that is the natural reward of an effort honestly made, and the growth in power that is a stimulus toward greater effort. In order to make this desire something more than a transient one, or a momentary interest in the novelty of the constructive activity, there must be the intellectual growth that results from a knowledge of the materials and their use as applied to the expression of an image.

This power to image is one that should early receive attention. The Japanese recognize this and begin very early to train their children to observe carefully, to image clearly, and then to reproduce. This means a great gain in mental and bodily efficiency, for after such training there is little awkward fumbling and less wasteful experimenting. To see possibilities and to be alert in making use of them is a most valuable power for the child to develop.

The early work in weaving is an illustration of this. At first the children have woven a mat with flat rushes. In this operation they have found considerable difficulty in holding the various pieces in place. The need of some arrangement to secure one set of pieces in position is strongly felt, and various ways of doing this are discussed and experimented with. One pupil first tied the ends of half his pieces to two sticks, so arranging them in parallel lines. This was a help, but was still awkward to manipulate, and further study developed the idea of holding the two sticks in position by two others at right angles, so forming a square frame which allowed him to devote his fingers entirely to the weaving of the cross strips.

Through the association of ideas the child begins to organize his experiences, to feel the need of some object, to reflect, to judge, to imitate, and to invent; thus following in the steps of the race.

Imitation has its place in this work as well as in many other lines. Imitation of another child, or of the teacher, in the use of a tool, or in the shaping of an object, is often helpful to one who lacks the power to image clearly. An excessive reliance



Work Showing the Development of Shelter from the "Lean-to" to the Thatched Hut; also Weaving and Basketry on this tendency, however, is destructive to independence of thought and action. One method of developing this independence is by presenting opportunities for invention. Materials are given the child to carry out a certain activity and he, as an individual or with the aid of a small group, attempts the solution of some problem. For example, in the early spring, a group of children were given slender, pliable twigs from which to make baskets. Each child went at it in a different way. One coiled the twigs and tied them in a basket form, and another tied three twigs together and wove them in a spiral manner, a third tried plaiting them and then coiling. After this experience, the use of the raffia and twigs to form a basket, and later the use of the raffia alone, served to give the subject of basketry an interest far keener than the work of imitating a model would have aroused. Each child had developed his own method.

Reference has been made to the fact that the problems presented grew directly out of the interests and needs of other lines of thought in the curriculum. Possibly a few illustrations may serve to indicate how this connection is made. When the child enters school in the fall, he has access to the school garden where he may gather the flowers that he planted in the spring while still in the kindergarten. He examines them and notes their changes. He thinks of the time when the frost will come and blight them, and he gives utterance to a regret. Some one expresses a wish that the flowers be preserved during the winter. Another child suggests that he has seen flowers pressed. A discussion arises as to how it may be done, and after various methods have been suggested and tried, a press is evolved. As it is to be a receptacle for beautiful flowers, it seems fitting that it should be something more than two plain boards. The size, thickness, and kind of wood to be used are discussed; various edges on the desk, piano, cabinet, etc., are observed; and a bevelled edge decided upon. The tool to be used in making such an edge is the next problem. The necessity of a tool hitherto untried is felt, and after various experiments the plane is found to be the best. The method of staining the press and the color to be applied (each child choosing his own) are brought out in a similar manner. The advisability of using sheets of paper between which to lay the flowers, in order that the moisture may be absorbed, is the next point developed. Various kinds of paper are shown, and a cartridge paper is selected because of its absorbent possibilities. Then a method of extracting the moisture from the flowers is brought up. One suggests weights and another binding. To carry out the latter method a band is made of a heavy macramé cord, knotted by the fingers in a manner similar to an easy crotchet stitch. This is passed around the press and the child binds it very tightly without the exertion of any great strength. The ways of preserving the flowers after they are pressed are discussed, and a book for mounting them is the outgrowth of experiment and suggestion. Thus the need precedes the activity, and interest awakens the constructive desire.

At another time the necessity of a better weapon for primitive man than the club, spear, or stone ax is considered. The evolution of the arrow from the crude hunting-knife and spear, the bow from the throwing stick and trap, have been traced. The story of how Ab invented the bow and arrow has been read, and the child has come to the point where he wishes to make and use one himself. A trial of various kinds of wood is made with reference to the qualities of toughness and elasticity. For the bow he discovers that he must use wood that is well seasoned, light, and straight, not gnarled or knotty. A

A Scene in the Sand-Table Representing the Mode of Hunting in the Cave-Man's Time. Bows, Arrows, Indian Suits, and Head-dress Made by the Children.

branch of ash is finally selected. The rough edges are rubbed down and boiling water poured upon it. Next it is oiled to make it tough and flexible, and then it is bent into shape. Several finished bows are so tested that the child may have a standard as to the length of one suitable to his own use. The Indian measure, eight times the span from the thumb to the little finger, is given him and he makes his accordingly. The stringing of the bow, the leaving of it unstrung when not in use, the oiling of it to keep it in good condition, are all matters of interest to him. They interest him from the side of play, and from these experiences he also learns something of the history of the bow as one of man's most valuable weapons. The proper wood for an arrow, its shape and length, are discussed. By experimenting it is discovered that a ratio exists between the bow and the arrow. Again the measure used by the Indian is given,—the length from the armpit to the end of the thumb nail. These measurements bring up the subject of the need of standards of measure and how they have been evolved from natural units. (Some of these natural standards are given in the article on Number.)

The need of weight in the arrow, the size and shape of the arrowhead, the connection between the wind and the feathering of the arrow, are all discussed and experimented with. Thus tools and their manipulation, the materials selected, the measurements necessary, the history and science introduced, all tend to give the child "a mental training through the hand and eye."

The making of Christmas tokens is an example of the connection between manual training and present social life. Many of our children have money given them to spend freely for presents, and it means little effort, no self-denial, and little thought to purchase their gifts as their fancies may dictate. But the planning of a gift, the labor and perseverance necessary for its construction, the feeling that it is a token which is the result of personal effort and thought makes it a most valuable experience. The child is encouraged to construct one that is useful and not too perishable. A simple gift is desirable, one demanding honest, unaided work on the part of the child. It sometimes happens that a pupil who is inclined to be careless and untidy develops a sudden desire to produce something worthy of presentation at Christmas time. His love and pride lead him to be more persevering, careful, and neat in his work than ever before. His gratification at the results inspires him to do better work ever after.

In this Christmas work, as in all constructive work, an endeavor is made to have the child develop a feeling for good lines, right proportions, artistic coloring and decoration. Because of home influences there is seldom a tendency exhibited to use crude colors or tawdry effects.

As has been suggested, the method is one of observation, reflection, open discussion, and experimentation, with the view of making the individual self-reliant, thoughtful, and independent. A dictated lesson, where every point is suggested, every step prescribed, every tool selected by the teacher, is not a manual training lesson in the true sense of the definition, for there has been no opportunity for the construction to develop as a result of the need, no observation of materials, no display of judgment in the selection, and therefore little or no mental training.

Of course with twenty-five children, one does not get twenty-five results of equal intrinsic value. There have been twenty-five different minds working in as many different ways; not one mind dictating and directing. If, however, every one of the pupils has exercised the maximum of consciousness, then there has been a "mental training through the hand and eye." The method pursued in group work differs somewhat from that observed with the individual. There are the same observation and open discussion, but the method of execution is decided by the majority of the group, or by a leader selected by the others to make the decision. The sand-table offers excellent opportunities for work of this kind. For example, a scene representing

A Scene in the Sand-Table Representing the Industries of an Indian Village some of the industries of an Indian village is determined upon. A child is selected to decide and apportion to the others the objects necessary to be constructed for the scene. One child makes the wigwam of skin or leather, or lacking that material uses cotton or burlap; another child decorates it. Two children make the canoe. One child makes the clay objects necessary to represent the Indian mother preparing the corn by pounding between stones. Another makes the figures to represent a cooking scene; another the figures to show the preparation of the skin for clothing; another shows the weaving. When the objects are completed, the children decide how the various structures and figures shall be disposed on the sand-table.

In this way helpful suggestions and assistance tend toward the development of the social spirit, and toward habits of co-operation.

M. C. W.

NATURE-STUDY

There is no doubt that nature appeals to children. Every child seems to have been blessed with a love for plants and animals and with an interest in natural phenomena. There is danger, however, that this vital spark may be crushed out by the artificial life which surrounds the city child, and that he may lose the sturdiness of character which contact with nature develops.

The city child cannot go among and care for animals. He cannot climb trees and hunt for nuts. He does not watch for the spring flowers, and know the bush where the first pussy-willow appears or the nook where the first violets grow. There is no trudging behind the plow for him or planting of seeds, and generally there is no ground for a garden of his own.

The majority of our city children are unable to keep pets or plants, as life in hotels, in apartments, and in most city houses is not conducive to the growth of either plants or animals. This deprives the child of a most valuable experience.

It is true the parks offer, in a limited way, some contact with nature. This, however, is a "Please keep off the grass" and "Do not pick the flowers" acquaintance. Here nature is something to look at, and not something that the child may approach closely or call his own. The squirrels and the birds, however, because they are protected, are usually quite tame and children have many pleasant experiences in feeding and watching them.

Many of our children spend the summer at the seashore or in the country. These experiences are certainly valuable, and the child who has them may count himself fortunate. Nevertheless, a few weeks at the seashore, followed by a few weeks in the country or mountains, with the succeeding long months in the city, do not give the child any definite or permanent relation with nature. Such conditions create a peculiar need for nature study in the Horace Mann School.

To foster the child's natural love for animals, we have in the first grade many pets in which the children take a special interest and for which they feel a personal responsibility. Last year, at different times, we had in cages a family of rabbits, some guinea-pigs, a squirrel, and one little chicken; in an aquarium, goldfish, sunfish, dace, water snails, and salamanders; in a vivarium, caterpillars, chameleons, green frogs, and tree frogs.

To strengthen the child's interest in flowers, each pupil plants flower seeds in individual flower-pots, which he keeps for his own. Some of these are placed in the greenhouse, because conditions there are more favorable for growth than in the schoolroom. (A greenhouse in charge of a gardener is maintained for the use of the Horace Mann School.) But the results are more satisfactory when the plants are kept in the schoolroom, because the child then feels a keener responsibility about them. The seeds that have been found most satisfactory for growth in the pots are the marigold and the nasturtium.

In the spring, the children work in the school garden. Each child has a bed in which he plants flower seeds of his own choosing. Bachelor-buttons, mignonette, sweet alyssum, candytuft, marigolds, and some others were planted last year. But owing to the early closing of school the most valuable part of this work is lost, namely, the caring for the plants and the watching of their growth. The children visit the garden, however, in the fall and see the final results of their spring planting.

For the sake of further acquaintance with nature, frequent visits are made to the Columbia campus near by. Here the children learn to recognize the oak and the maple tree; here they study the squirrels in their freedom, and the birds, especially the English sparrow and the robin; here they watch the effect of the coming and the going of the seasons upon plant and animal life, as well as upon the landscape. Occasionally visits are made to Riverside Park, Morningside Park, and Central Park.

The children become familiar with the common wild flowers which always appeal to them, by having the varieties that they are likely to meet on their excursions to the country brought into the classroom.

In the fall, oak and maple leaves are gathered in the country, that the children may see their beautiful coloring, coloring which they do not see in the city. Twigs of the oak, the maple, and the horse-chestnut are brought into the classroom to show the different stages of the growth of the buds. The moth and butterfly caterpillars are kept in the schoolroom and the children watch the wonderful change from worm to cocoon, to insect. Last year the Promethea, Io, and Cecropia were observed. In the spring, frogs' eggs are also watched with eager interest as they develop into tadpoles and begin to grow.

A study of plants and animals in their relation to food, clothing, and shelter in primitive times, and also at the present time, leads the child to feel his dependence upon nature. Often the city child, surrounded as he is by innumerable markets and inexhaustible shops, does not realize this dependence.

On the program, nature-study is scheduled for three fifteen-minute periods a week, but it is hard to confine the subject to regular periods, and to present it in such a way that the children may take an active part in the work. Some of the most valuable work is done before school, after school, and during some of the free play periods. When their work is finished, the children are allowed to watch the pets or to work with their plants, provided they do not disturb the class. They enjoy this and at the same time become more intimately acquainted with the plants and animals.

The method of work includes the care of the animals and plants, observations, discussions and oral reports of observations and experiences. The observations are suggested by the children's interests, or by problems in nature study.

These discussions and reports give opportunities for valuable language lessons. The child has some information which he wishes to impart to the other children. He is held responsible for making them understand, consequently he must express his ideas clearly and definitely.

The aim of the work in the schoolroom is not to discover the number of legs, toes, teeth, etc., of the animals, but the animals are used as the children's pets. In watching them and caring for them the children gain a knowledge of the animal in its relation to their own lives and of its characteristics, habits, disposition, and needs.

Last fall we had in our schoolroom for some time a gray squirrel. When it came to us it was not thoroughly tamed, was frightened when the children went near, and snapped at and scolded them. How to tame it was a problem. The children considered the question, decided that he must be fed and given water, and that they must keep away from him until he became accustomed to being in the schoolroom. This plan was followed. Before he left us he would take nuts from the children and did not object to having them watch him.

Many questions were involved in caring for the squirrel, questions which arise in connection with keeping pets in the schoolroom or elsewhere. It was necessary to consider the kind and quantity of food to give him. For the squirrel's sake these points had to be decided at once. The temptation was strong for each child to give him something, as it was such fun to see him eat. Should the nuts be cracked before giving them to him? was another question to be answered. This demanded that the children know something of the squirrel's teeth in order to meet his needs. They recalled what they knew about the way squirrels eat; some other facts regarding their teeth were developed; finally, it was decided that the squirrel must have something to gnaw, in order to keep his teeth in good condition, therefore the nuts should not be cracked, unless it was found that the shells were too hard for him to gnaw through. It was possible, in this study of the squirrel's teeth, to make a personal application, and to lead the children to see the necessity of boys and girls caring for their teeth.

The responsibility for feeding the squirrel was placed upon the children. One child was chosen with the privilege of choosing some one to help each day. The class, as a whole, acted as monitor to see that the privileged child did his duty, while the teacher exercised a close supervision. Practically no experiments were made with the food of the squirrel, but the children were constantly on the lookout for ways and means of making him more comfortable. Their suggestions, provided they were reasonable, were always considered.

In caring for pets the ideal way is to have the children take the entire charge of them. Owing to peculiar conditions in our school, we have not been able, as yet, to realize this ideal. We do the next best thing, however, and let them take as much care of the animals as is possible.

During the time the squirrel was in the schoolroom, visits were made to the campus to watch the squirrels there. In this way something was learned of the habits of squirrels when they are free, and this helped the children to understand better the needs of their pet squirrel.

When the squirrel first came to us, a question arose concerning the fear he showed. The reasons for the fearfulness of squirrels found at large were discussed. Some of the squirrels' enemies were mentioned, and the squirrels were observed to see what means they had of protecting themselves from these enemies. This brought out some of their characteristics—color, quickness, climbing powers, etc.,—and led to a talk about the structure of the squirrel, general facts which the children discovered for themselves. As the seasons changed, the effect upon the covering, food, and habits of the squirrels on the campus and in the woods was considered.

In connection with all of the work with the schoolroom pets, the children are encouraged to relate any experiences they may have had with animals, and to give any information about them that they may possess.

In planting and caring for plants it is possible to make experiments which are impossible in caring for animals. In this work the child is left to find out for himself the best way of doing, the aim being to raise the best plant he possibly can.

Each child is given a small flower-pot and a number of seeds. He plants the seeds as he thinks best, regulates the depth of planting, the quantity of water, the placing or light, and any other condition that he can. From time to time, the plants are compared and the children discuss ways and means of improvement. The comparison of a plant that is growing particularly well, and one that is not, brings out some important facts; thus, when the seeds begin to sprout, the child whose seeds have not sprouted may discover that he has planted his too deep. If the seeds do not come up, he is given another chance to try. This work also reveals the reward of intelligent care and the results of neglect, a most valuable lesson for life, and one which a large number of our children need. That the children may profit by their mistakes, they are given, after these plants begin to bloom, other seeds to plant.

As the child watches from day to day the unfolding of the life history of the plant, the roots, stems, leaves, flowers, and seeds come to have a new meaning for him. He appreciates that each is necessary for the life of the plant. Because the child has cared for the plant, watched over it, held its life in his hand, he loves it, and its beauty appeals to him more strongly than it has ever done before. "The love of a flower in the heart of a child is the highest thing nature-study can develop," says Prof. Clifton F. Hodge.

In caring for plants, the child is compelled to think, reason, and experiment for himself, and he thus gains executive power, independence, and self-reliance. His skill in observation is developed. He also acquires ability to prolong his interests by continued effort and so increases his self-control. His memory is exercised, for he must remember what happened under certain conditions, in order to profit by experience. He develops patience, carefulness, faithfulness, invaluable qualities which count in the character of the individual. That this work appeals strongly to the children, is best shown by the efforts some of them make to raise plants at home.

Familiarity with the names and with the development of the common wild flowers, in their season, is secured by bringing them into the classroom. The children learn the names of these flowers, and something is told of the way they grow, either by the teacher or by some child. The children put them in presses, and mount them in books which are made in the manual-training class. In this way each child keeps a record of the flowers he knows. He also presses and mounts the oak and maple leaves. In the spring, plants of the violet and other wild flowers are put into pots and the children care for them and watch them grow.

Trees are studied in connection with the food and shelter they offer the birds and squirrels, and in their relation to the child. In the latter connection the shade the trees give, and their beauty, are two points which appeal strongly to children. The oaks and the maples on the campus are observed throughout the year, so that the children may recognize them in the different seasons. The falling of the leaves, the coming of the buds, and the growth of the new leaves interest the children. They examine the buds in the fall, again in the winter, and then in the spring. They watch the unfolding of the leaf buds on the twigs in the schoolroom, and later, on the trees. In this study some striking characteristics of the tree as a whole are emphasized; the more detailed facts mean little to the first-grade child and are considered in other grades.

In connection with the oak and maple, the acorn and maple seeds are considered as seeds. They have a greater interest for the child, if he can plant them and watch their growth. The tree coming from a little seed then becomes a real thing to him. He has been told that the mighty oak from the little acorn grows, but it is not until he sees the sprouting of the nut and the little leaves beginning to grow that he fully realizes it.

The acorn, chestnut, and walnut are also considered in connection with the food of man and of the squirrels. In considering nuts as a food for man, the thought is connected with primitive man's problem of securing food.

It is often difficult to determine where to draw the line between much of the primitive-life study and the nature-study. Many of the problems which confront the child in primitive-life work demand that he go to nature for their solution. Much of this work is done by building upon his country and seashore experience. Thus, the problem of securing food suggests the question of the locality in which one may expect to find nut-trees, berries, etc.,—in damp, wet places or on higher ground where it is dry. The solution of some of these problems also leads him to explore his immediate environment. In making stone weapons, for instance, what qualities are desirable in the stones? The children bring in many stones and become extremely interested in them from this point of view. Many of these things, which if unrelated would have no meaning for the child, and consequently would not appeal to him, become interesting, because he has a problem to solve. He casts about among his experiences and turns to his environment to find something to help him to the solution. Things which before seemed unimportant to him now appear of value.

Following the life history of the butterfly or moth is entirely observation. The children, always fascinated by a caterpillar, watch it with interest. They learn its name, the kind of leaves it eats, and become familiar with some of its characteristics. To many of the children the cocoon is a great mystery, and although there are always children who know the secret, the others are not fully convinced until the insect appears in the spring. There is no reciting of facts; an occasional question leads to intelligent observation, and many conversations reveal what the children have gained.

Weather conditions are studied in connection with the change of seasons, and the effect upon man, animals, and plants. Weather charts are made, and a record of the temperature, of the weather, and of the direction of the wind is kept for a period of two or three weeks in each season,—autumn, winter, and spring. Comparisons are made, for instance, of the direction of the wind on a clear day and on a stormy day, the temperature on a rainy day and on a sunny day. This work is very simple, only facts that the children can easily discover being presented.

The excursions to the campus and parks present many problems, not least among them being the holding of the children's attention, as there are so many things to distract it. It has been found that a group of twenty-five children is too large to secure satisfactory results, so, whenever it is possible, the class is divided, one half remaining in the schoolroom in charge of an assistant, while the other group is out-of-doors. After the second group has returned the children compare observations.

Before going out the children recall and organize their knowledge and experiences relating to the subject of the excursion. Then some of the problems in connection with the subject are discussed, and the facts to be observed are definitely stated. This gives the children a definite aim, so that their attention is not so easily distracted. They also observe more intelligently and feel responsible for their observations. The manner of conducting the excursion depends entirely upon the observations to be made. If the subject is to be discussed, the children remain in a group while they are observing; if they are to gather what facts they can from observation, the children work individually. After the return to the schoolroom, time is taken for a short report of the observations made and for the organization of facts, either orally or by drawing.

The nature work is closely related to the other studies. The relation between the work in primitive life and nature-study has been shown. In literature the selection of many of the stories and poems is influenced by the subjects under discussion in our nature-study; to illustrate, the story of *Persephone* is told when we are considering the change in the seasons, *Wizard Frost* is learned when Jack Frost is holding our attention, and so many other selections are made, as is shown in our outline of the subjects in the curriculum. Some of the work in manual training finds its motive in the needs created by the nature-study, the trellises for the plants, for instance. Constant opportunities arise for practical number work in comparing the growth of plants, in laying out the garden beds, etc. Nature-study frequently furnishes the subject for the very simple sentences which the children write. In music, many of the songs are chosen because they relate to the nature-study, and many art lessons are inspired by the nature lessons.

In this work the children gain much useful knowledge. They develop an intelligent interest and a sympathetic attitude toward nature. A feeling of responsibility is awakened toward plants and animals so that the children desire to protect them. This desire leads them to respect the prohibitive signs that unfortunately have to appear in our parks.

The young savage who goes about seeking what he may destroy or torment is influenced by this work. His cruelty results possibly from his inherited savage instincts, probably from ignorance. The care of plants and animals awakens his interest in them. This leads to a wider knowledge of them, and he begins to exercise some self-restraint and eventually a protecting attitude toward living and growing things.

With close observation of nature and the sympathetic feeling for it the child begins to see more and more of the beauty which surrounds him. He begins to appreciate the delicate foliage of the spring, the coloring in each season, and the many beauties that are revealed to him who looks. As the child watches the coming and going of the seasons, the wonderful adaptability of the animal to its surroundings, and the manifestations of nature, there gradually dawns a recognition of the law and order that governs the works of nature.

E. C. B.

ART

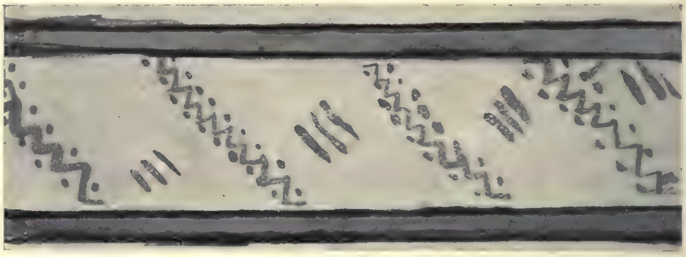
The value of art work in the first grade is not determined by the number of possible artists it may be training, but by the experience it offers each child for his development. Froebel proclaimed the need of providing the child with opportunities for self-expression in his school life. To-day, it is recognized that the child develops through self-expression. Any medium, therefore, which makes it possible for the child to gain power in giving concrete expression to his thoughts, which aids him in revealing himself to himself and to others, is of vital worth. It is because art study furnishes this opportunity for self-expression that its place in the curriculum is justified.

Art instruction in the school, then, must result in self-expression. If it fails to gain this end, it ceases to be art and becomes a mechanical exercise, if not an injurious one. Much of the so-called art work in the past has been of this nature. Self-expression demands thoughts, ideas, and feelings, with power to reveal them to others. Art expression depends upon the proper balance of these two phases—motives and technique. Because of this dual nature of art, each lesson so far as possible must be "a double process of new revelation to the child, and of the new revelation by the child." To give the child executive power without increasing his stock of ideas, and his ability to feel, or to awaken his ideas and feelings without increasing his power of expression, destroys the "harmony between the powers of insight and attainment." The preservation of this harmony influences the selection of subject-matter and the method of presenting the technique.

When the art lesson becomes responsible for what the child sees, thinks, and feels, as well as for his skill in drawing and painting, the subject of the lesson becomes a matter of importance. If the child is to recognize and appreciate beauty, he must become familiar with the beautiful. This demands that the subjects of the lessons possess the elements of beauty in themselves, and in their relations. If the work is to be a self-expression, the child must be actively interested. This demands that the subjects be adapted to his stage of development and that they be rich in content, so as to arouse thought and feeling.

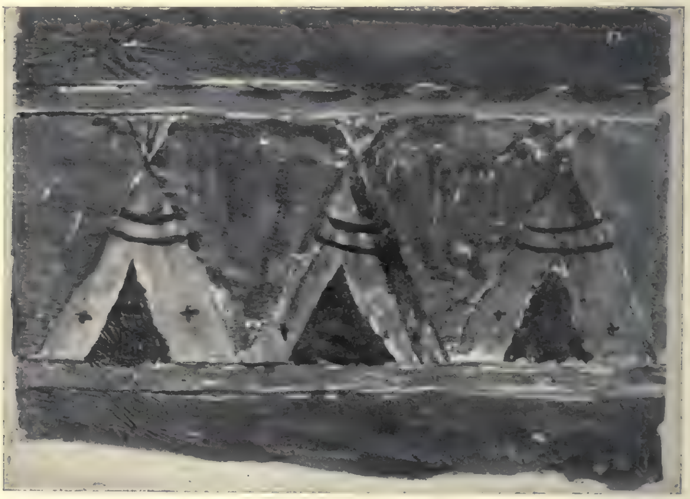
It has been found in the work of the first grade of the Horace Mann School that nature study, literature, the study of primitive life, and experiences from the child's every-day life furnish suitable subjects for the art lessons. The decoration of many articles made in manual training is also the subject of many lessons. Relating the art work to these studies, among other advantages, results in an economy of time, which is necessary in our short school session. In the lessons in these subjects the child's interest has been aroused, and he has gained some knowledge which forms a foundation for the art work. With this basis to work upon, all of the time of the art lesson can be devoted to viewing the subject from the art standpoint. This relating of subjects also results in a broader knowledge of each subject, as it has been viewed from different points, and in a more complete development of the child, because his different powers have been called into related activity.

The criticism has been raised that when the subject of a lesson in nature-study, literature, or primitive life is carried over into an art lesson it is simply a continuation of the same subject and in no sense an art lesson. This does not necessarily follow. For example, in a nature lesson a flowering plant is studied, and interest in the life of the plant is aroused. The arrangement and use of its parts, and the use of the plant to man are all considered. In the art lesson the children are asked if they would like to make a picture of the plant. Each child is eager to do this, not because he wishes to show the parts of the plant and their relation to each other, but because the beauty of the plant has appealed to him. If the nature-study lesson were to be continued, it would be necessary to make a scientific drawing of the plant which is quite beyond the power of the first grade child. In the picture he is to make, however, the beauty of the color and lines of the plant is to be brought out. There is also another motive in the lesson. That the picture may be a harmonious whole when completed, the child should consider the size and shape of paper to be used, the best placing of the picture upon the paper, and other points, besides the actual painting of the plant, which belong wholly to the art work. In this way, although the same object is studied in the nature and art lessons, each retains the characteristics peculiar to itself. The plant in nature-study is presented from the standpoint of nature-study, and in the art lesson from the standpoint of art



Design Used in Decorating a Head-dress (Water-color.)

The mediums that have been found most satisfactory in the work in this grade are crayons for blackboard work, soft marking crayons (black and colored), charcoal, and the brush with ink and water-color paints. (Boxes containing seven colors are used.) White, gray, and Manila drawing-paper are used, also charcoal and Japanese rice paper. Much work is done on the blackboard with the broad side of the crayon. This work



A Border Design Done with Water-color on Japanese Rice Paper is especially valuable in the fall when the child first comes to school, for the large movements develop his motor side and muscular control. The work is quickly done, so that fleeting impulses may be expressed before the child loses interest. and experiments and corrections may be easily made. Excellent results—most artistic effects in light and shade—are obtained with charcoal, the best when charcoal paper is used, but drawing-paper may be used. The large marking crayons are used on drawing paper. They permit large free movements and are especially good for seat-work drawing. Ink, used with a brush, furnishes a medium for quick, broad work, which is often desirable. The water-color paints are used throughout the year for color work, and are very satisfactory. Valuable lessons are also given in neatness and in the care of property, for the child is held accountable for the condition of his paint-box, brush, and water pan.

Every normal child likes to make pictures, and instinctively uses pencil and paper. These impulsive expressions become conscious expressions under careful guidance, but without direction there is no growth, excepting what is accidental. Some simple beginnings are made in the study of technique in our first grade. Observations have led to the belief that until his sixth or seventh year the child is satisfied with his crude scribblings, but when he begins to take cognizance of the things about him, his symbol no longer satisfies him, for he begins to see the difference between it and the reality. When he feels this difference he begins to ask how to do. This seems the right time to begin instruction in technique.

One of the Pictures Selected by the Class.

It is the aim in the work to make the growth of the power of expression a natural one, not to impose rules and directions upon the child, but to make him self-active in gaining technique. To accomplish this the child first expresses his idea in his own way, then by questions, suggestions, and criticisms he is led to see the difference between what he has done and the thing he should have done. For example, in the fall the children painted a maple leaf. Some succeeded in drawing it fairly well, but only a few succeeded in placing it effectively upon the paper. The work was hung before the class and after the painting itself had been criticised, attention was called to the picture as a whole. A selection of the pictures liked best by the class resulted in an almost unanimous choice of those in which the leaf was well placed. Then by questions and suggestions, and by showing pictures which illustrated artistic placing, the children were gradually led to see the necessity of considering where the picture should be placed upon the paper. After this each child tried by experimenting with his leaf upon the paper to discover the most effective placing. In this way he learned some facts about placing, and some feeling was awakened regarding it.

The technique gained in this way, however, is not merely a matter of chance. Lessons are planned with special reference to drawing, placing, arrangement, spacing, proportion, and color. The child must have a knowledge of these principles not as ends in themselves, but as means to aid him in the best expression of his ideas. They lead him to feel that his picture must be something besides a mere representation, that it must be a harmonious whole.

That the child may have a desire to produce such a picture some motive must be given him for painting it. It may be that the picture is to be taken home as a gift to some member of the family or to a friend, or that it is to be hung in the schoolroom. Here is a reason why the child's best effort should be put forth. This motive, together with the child's real liking for such work, calls forth his best efforts.

Mention has been made of the fact that the child compares his result with the proper one and thus becomes his own critic. This critical attitude toward his own work is most valuable, and it is quickly awakened in the art work. Self-criticism leads the child to observe more accurately, to execute more carefully, and to exercise self-control in prolonging efforts to accomplish a given result.

Some time in each lesson is devoted to this critical work. Much individual attention is given as the teacher passes from child to child while the class is at work. Much is also accomplished in the last five minutes of the lesson when the pictures are hung before the class, so that each child may see the work of every other child. At this time questions, criticisms, and suggestions from the teacher and the other children help the child to compare his results with the results desired. Each lesson reveals new points for consideration, besides the definite aim of the lesson. It is necessary to exercise care in this connection to select only essential points for consideration, for the child is easily confused. Each lesson should give one or two definite ideas which can be applied in the next lesson. Sometimes four or five of the best pictures are selected by the vote of the class; again, certain children choose the pictures they like best. In each case the children are asked to tell why they think the pictures good. Then those to whom the pictures belong are asked to suggest points in which improvement may be made. The picture that is not a success is also often discussed. The child to whom this picture belongs is helped to compare it with the object he tried to express. Questions and criticisms help him to see where he has failed, and suggestions help him to accomplish better results next time. It has been found in this work that as much is gained by calling attention to the good points as in bringing the weak ones to light. The points which are developed in one lesson by this critical work must be recalled and applied in the next, for it is only by constant repetition and application that the child gains in power.

This comparison and criticism of work has a most beneficial effect upon the careless child. By this method the results of his inaccurate observation and negligent manipulation of material stand out in all their baldness. If a picture that is covered with finger-marks and daubs of paint, and that has been badly placed and painted, is hung beside one which shows care in every detail, the contrast is so strong that little need be said to have the careless child see the error of his ways. This often results in his asking to be allowed to try again, or to have his picture taken down. As a rule, there is soon a marked improvement, not only in the child's art work, but in his work in general.

This critical faculty of the child develops faster than his power to execute, thus furnishing an incentive for better work. But if it be too far in advance of his technique, the child is disgusted with his results and becomes discouraged. To keep the proper balance between the two, it is necessary that he overcome conscious difficulties as they arise. For example, the child has painted a leaf, and the size of the stem is entirely out of proportion to the blade. In the criticism of his work the child sees this, and finds that it is partly due to the fact that he did not use his brush correctly. Now is the time for him to experiment and to learn how to use it. By working in this way he gradually gains in skill. His interests are too fleeting, however, for a prolonged study of technique.

As has been suggested in the lesson of the maple leaf, the children, at first, have little or no idea of placing their paintings or drawings effectively on paper. Much practice and experience are necessary in this phase of the work, therefore many lessons are given in which there is an opportunity to emphasize placing, arrangement, and spacing, not as ends in themselves, but as means to an end. In some lessons the object to be drawn is given, and the child selects paper of the right size and shape; or the size and shape of the space are given and the child fills it in. This is usually done in the illustrative and imaginative work, which offers some of the best opportunities for lessons in these principles. Again the size and shape of the space are given, and also the objects to be arranged within the space. This demands that the child have a clear mental picture of what he is going to do before he begins to work. If he does not have this definite picture in his mind, his work is indefinite and haphazard, and he accomplishes little. This ability to form clear mental pictures varies greatly in children, but with constant effort much may be accomplished. In aiding the child to gain this power, it has been found helpful to have him describe what he is going to put into his picture, if he is illustrating, and how he is going to arrange the parts. If the lesson is to emphasize some special point—the arrangement of some twigs, for instance —he tells how he proposes to arrange them in the space before he begins Repeated work of this kind impresses upon the child the need of clear mental pictures and helps him to form them.

Many lessons are also needed before the child begins to represent things in the correct proportions. He will draw the stem of a flower entirely out of proportion to the flower itself; if he is illustrating, his people and animals will be as large or larger than his houses and trees. He knows better than this, but it is only by much practice that he gains power in picturing things as they are. It has been found helpful in developing the idea of proportion to have the child feel that he must tell "a true story" about what he is representing. To help him to see whether he has done this, the teacher sometimes takes a picture that he has drawn and tells the story that it tells her. For instance: "Your picture tells me that your leaf had a stem as large as a branch of a tree. Did it?" Or: "Your people look like giants. How do they live in such little houses?" Here the child compares his expression with his idea, and discovers wherein his representation is not true. The child must be

In winter I get up at night
And drass by yellow candle
light.

The Arrangement of this Picture was Described by the Child before Painting it helped to see accurately and visualize clearly, and it is only as he gains power in doing this that he will have clear ideas of proportion. The definite work done in proportion in arithmetic, with the block, etc., is an aid in this work.

Every lesson gives an opportunity for practice in drawing. Correct drawing depends upon accurate observation and skill in the use of brush and pencil. When the child enters the first grade, he looks, but does not see. When he draws his trees, a straight line does for the trunk, with lines extending on either side for the branches. As he compares his pictures with the trees about him, he gradually comes to realize the discrepancy in his picture. Then he begins to see more accurately and tries to represent more carefully. It has been found helpful in securing careful observation and care in drawing to impress upon the child the need of telling the truth in his pictures. If he is to draw a flower, he must draw the particular flower before him. It helps the child to realize that his flower has characteristics of its own, if, before he begins to work, he compares it with another to see wherein it is different. The difference may be in the curve of the stem, perhaps a loose petal. The large points to which his attention may be drawn help him to make his picture a more exact representation. Sometimes the flowers, or whatever is to be sketched, are placed in different parts of the room. Each

Goldfish in the Class-room Aquarium (Water-color.)

child chooses the study he can see best, and he is to draw his picture so that the teacher can tell which flower he chose. This demands that the child make a careful observation of the special study he has chosen, and that he represent it as truthfully as he can. As he works, he gradually discovers that he must make one kind of a line to tell the strength and solidarity of the tree trunk, another kind to represent the daintiness and softness of the flower, that each line that he uses plays an important part in the character and truthfulness of his picture. The children draw from nature,—trees, plants, flowers; from live models,—the pets in the schoolroom,—and from each other. They also draw many of these objects from memory, and do much imaginative and illustrative work. Sometimes each child has his own model from which to draw, which is desirable when special attention is directed to the arrangement in a space. Again, one model serves for the class, the size of the model influencing its use in this way, but it is often a great aid to have the class attention concentrated upon the same object. At other times objects are arranged so that small groups of children may use the same one. These points are determined by the needs of the lesson and the material procurable.

"By the shining Big-Sea-Water stood the Wigwam of Nokomis."
(Charcoal Drawing.)

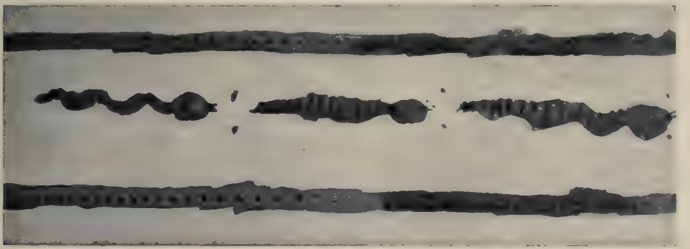
Every painting lesson offers an opportunity for developing the child's feeling for color and his skill in using it. Nature in her varying moods furnishes unlimited opportunities for the best of color lessons. When the child enters school he does not recognize the varying tones in color; a green is green, a blue is blue. When he paints his first autumn landscape the grass is *a* green, the sky *a* blue, and not until be compares his picture with the landscape about him does he begin to see the varying lights and shades in color. Then as he paints pictures showing the seasonal changes, he begins to learn the stories that the colors tell—the deeper coloring of the fall in sky, tree, and grass, the grayness of the winter, and the new life and freshness of the spring. Not until he begins to paint leaves, flowers, and landscapes are his eyes opened to the beauty of the color about him.

Autumn Landscape (Water-color.)

Perhaps no phase of art work offers better opportunity for applying the principles of art than that of design. Here the child must exercise his judgment and taste in placing, arranging, and spacing, in proportion, and the use of color. The work in design in the first grade is not begun until the child feels some need for it. By this means only does he become actively interested and creative. Too often children are set to work making designs which they have no real motive for creating, the work being done in order to apply certain rules and directions which are given them. This results in a more or less mechanical exercise with little opportunity for growth. On the other hand, when the child wishes a design for the cover of his leaf book, or a decoration for his bow and arrow, or for a piece of pottery, he has a real purpose in creating the most beautiful design in his power, so he puts himself into the work. In making a design to be applied to some special use, the shape, size, and purpose

Design Used in Decorating a Bowl of this Shape (Water-color)

Border Designs Used in Decorating Bows (Water-color)



A Border Design Used in Decorating an Indian Shirt (Water-color) of the object to be decorated must be considered. The child does not gain this experience when the designs are not used.

Our children gain their incentive for work in design from their desire to decorate the things they make in manual training—bows and arrows, shields, head-dresses, suits, wigwams, etc. In selecting the motif for his design the child turns at once to nature; sun, moon, stars, beasts, birds, fishes, mountains, and hills, all are suggestive to him, as they were to primitive man. He follows in the footsteps of primitive man, and conventionalizes these subjects as he works them into his design. The children show much originality in the arrangement and application of the motifs in their designs. One will choose the same motif for all, make one arrangement for his bow and arrow, another for his shield, and another for his suit; another child will choose a new motif for each design. All of the designs are made on paper before they are applied, so that before he begins the decoration of any article the child has a definite idea of what he is to do. (In applying these designs on cloth, tapestry paints are used, which are purchased from Devoe & Reynolds.) Many designs are often made before the child succeeds in making one which is satisfactory. Satisfaction with results, of course, varies with the child. Some are too easily satisfied, and in these cases the teacher's opinion frequently decides whether a

Marigold (Water-color)

design shall be used or not. In this, as in other work, an effort is made to have the children see and feel their needs, and as soon as the work shows thought and effort they are encouraged to make their own selections. In connection with the work, the children are shown examples of primitive design on pottery, weapons, and clothing, not, however, for them to imitate, but as suggestions and means of broadening their experience.

The majority of children, in their use of color in their designs, show their love for the brightest. Reds, blues, greens, and yellows are boldly combined, resulting in most startling effects. No effort is made to impose a more refined standard upon the child, for it would not appeal to him. He is allowed to choose his own colors, but is encouraged to experiment in other combinations. Decorations that have good coloring are shown to him, and he compares his designs with these and criticises his own. He is also shown the effect of combining tones of the same color, and of a touch of black or dark brown in certain combinations. In this way he gradually grows away from the use and the joy in the use of crude colors. By the end of the year many children show a considerable degree of feeling and taste in their selections and combinations, thereby proving that the work has resulted in a growth of the esthetic nature.

Another valuable means of developing the child's esthetic nature is picture study. In giving him pictures which are examples of the best in art, we are giving him standards which influence his ideals and his feelings. Children must be taught how to look at pictures, as they are taught how to look at nature —for they look but do not see. For this phase of the work pictures which appeal to the child's interest are selected. They may be connected with some thought that is uppermost in his mind—Christmas pictures, or good animal pictures in connection with the primitive life study, or with some experience in the child's life—so that he may see some of his own experiences realized. It must be remembered in making selections that unless the child has had experience which will help him to interpret a picture, it means little or nothing to him. It is the thought and the spirit that are expressed in the picture that the child must be led to find. Questions and suggestions lead him to get these, and telling the story which the picture tells him often deepens the impression. Although no study is made of the technique of the picture, the child's feeling for its beauty is awakened. This is greatly influenced by the teacher's feeling for the picture, but questions and suggestions may lead the child to see the light and shade, balance and harmony, that make the picture beautiful. As he becomes familiar with good pictures, he unconsciously becomes acquainted with some of the true principles of art. In studying a picture, each child is usually given one. After studying, he mounts it and takes it home. In selecting the mounting sheets, care is taken to use the right size, shape, and color, so that the picture may have an artistic setting. Not more than one picture a month is studied, as the aim is to have the child know and enjoy a few pictures rather than to become acquainted with many.

Art work demands and gives opportunity for sense and motor training, a training which meets the needs of the child at this age. It has been shown that throughout this work a constant demand is made upon the child for careful and accurate observation and expression. This action and reaction result in real sense and motor training, not in mere gymnastics, as is too often the case in much of the so-called sense training.

Every art lesson furnishes an opportunity for the growth of the imagination. The clearness of the child's expression depends upon his power to see with his mind's eye. The illustrative and imaginative work transports him to other times and places, and he creates the new scenes and conditions which he pictures.

Constant opportunity arises in the work for training the child's judgment. His criticisms of his own and others' work, the selection of his colors, his decision concerning placing, arrangement, and spacing, all call for an exercise of judgment. This is most valuable training, for he tests his conclusions by carrying them into action and sees in a concrete way the success or failure of his choice. As he begins to work with a definite aim in view, and as he acquires skill in carrying out this aim, he becomes independent. His critical faculty will prevent satisfaction with results that fall below his ideal, and his repeated efforts to attain that for which he is striving will prove a valuable lesson in self-control.

Perhaps no phase of art study is more valuable than that which lifts the child above the plane of mere utility, and leads him into the realm of the ideal and to the appreciation of the beautiful. As the child aims to make his picture a harmonious whole, rather than a mere representation, he constantly appeals to his sense of the beautiful. His color work, his drawing, all of his art work is influenced by his taste and feeling. As his work is criticised, the child strives for better things. Under careful guidance, his standard of taste becomes higher, and finer feelings are awakened. The careful observation which drawing demands leads the child to discover beauty which before was hidden from him. With his increased power to see and appreciate beauty, he sets higher and higher ideals for himself. He shows this in his work and in his attitude toward past results. Results that were entirely satisfactory at the beginning are viewed with disgust at the end of the year, and many of his later pictures reflect his growth, and show that finer feeling and deeper appreciation of beauty have reacted upon his power of expression. This work also leads to a greater respect for truth. As the child strives to find the peculiar characteristics of flower and leaf, he is searching for truth, and as he tries to give honest expression to what he discovers, his respect for truth increases.

As the results of the art work are reviewed, it is felt that they justify the time devoted to it. It is believed that in presenting art in this way—with self-expression as an aim and the gaining of technique as a means—experiences are offered which parallel those of life, resulting for the child in the well-rounded development. It is hoped that a foundation is laid that those who follow can build upon. There is no doubt that during the year's work the child gains in concentration, self-control, and judgment, in power to see, to visualize, to express himself definitely, to appreciate beauty, and to work independently.

E. C. B.

LITERATURE

At the present time literature occupies a place in the curriculum of the primary school by universal consent. The following discussion attempts to give the reason for our belief in the ethical, esthetic, and intellectual value of literature for children in the primary grade.

Upon entering school the child is confronted by many new conditions to which he must adapt himself. These new relations demand an adjustment of his "sense of right conduct." The wider circle of acquaintances demands that his ideas of right and wrong be extended to meet "community conditions"; less individual attention demands more independence and self-reliance in thought and action; responsibility to a greater number of people takes away the personal element in obedience, and demands obedience because it is right; wider obligations demand a stricter sense of property rights and a greater respect for truth. The work in literature aims to help the child to understand these new conditions, and to create ideals which will help him to right living.

The fairy tales, fables, myths, stories, and poems portray life clearly as the child sees it and give, moreover, the universally accepted view of it in a manner that the child can interpret through his own experiences, thus taking him out of himself, and giving him a wider view. They picture life's relationships truly and justly in terms that he can understand, making the good attractive and the base ugly, rewarding virtue and punishing wrong-doing, thus awakening and influencing the moral judgment of the child. True moral training is the awakening of the child's judgment of right and wrong, by introducing him, in his stories, to "persons and acts that are simple and transparent enough to let the moral light shine through, that possess sufficient life to lend warmth and vigor to moral judgments." The impression left by platitudes, moral axioms, and discourses, which are too often given as moral instruction, is not moral training.

These stories also foster the idealizing tendency in the child, because they appeal strongly to his fancy. At this age he is imitative as well as imaginative, and this tendency leads him to imitate the deeds of his favorite character; even his thoughts and his aspirations become those of his hero. This must react upon the moral growth of the child.

The work in literature also carries the child into the realm of the beautiful; it opens to him a world of unlimited pleasure and enjoyment. Here, as in art and music, he learns to recognize beauty, and in seeking for it to appreciate it. Here is the word-picture which the child soon sees as clearly as the picture given to him with brush or pencil; here is music which his ear must be attuned to hear; here is beauty of language which he must learn to recognize and enjoy; here he may walk hand in hand with the great, the true, the noble. Will this not in time awaken a deeper reverence for beauty of character which will result in right conduct?

Literature also helps to promote the growth of the emotional nature. The stories appeal to the child's imagination and to his heart. At this age he is so imaginative that he lives the story as he hears it; he places himself in strange situations, and endures trials, dangers, and difficulties that he has never experienced in real life. He sympathizes and rejoices, condemns and approves as he lives with his characters. He is constantly putting himself in another's place, and is gaining power to see from another's point of view, and thus to feel for him.

The every-day school life of the child gives numerous opportunities for the exercise of the altruistic feelings that may be awakened by the story. The recognition of opportunities for helpfulness, and the effort to meet them, influence the development of the child's character and result in a true growth of sentiment. Feeling aroused without influencing the child's relations to others results in mere sentimentality.

In the work in literature the imagination is constantly appealed to in picturing scenes in story and poem, in transporting the child to other times, in helping him to understand new and strange conditions, in putting himself in the hero's place, and in many other ways, so that there is a "growth of the imagination in scope, flexibility, and in sympathy."

The child's judgment is exercised in his approval or disapproval of lines of conduct or action, and in his agreement or disagreement with the culmination of a line of events. Occasionally the children follow a story with interest and feel that the climax is not in keeping with the events which have led up to it; expression of such opinions, when well supported, is encouraged. At first the most unimportant detail in a story arrests the child's attention and he loses the real point. In the discussions and in the reproductions of the stories he is led to distinguish between the imporatnt parts and the trivial, and by repeated effort in this work he gains some power in discriminating as to the relative value of the incidents. This results in a growth of the judgment and in a keener appreciation of the story, which makes its influence upon the child of greater worth.

Memory is constantly used in reproducing the stories and in memorizing the poems. As the child sees life in literature in its many and varied relations, his concept of things becomes clearer and clearer; these clear concepts produce vivid impressions, and the more vivid the impressions the greater the stimulus to the memory.

The work in literature also increases the child's vocabulary and power of oral expression. In listening to stories and poems he becomes acquainted with many new words and with their correct usage, and, as has been suggested, he is led to look for beauty in form of expression. In his conversation and in his reproduction of the stories he frequently uses these new words and often the exact phrases and sentences of the author. Telling stories also gives the child training in logical thinking and in expressing himself clearly and definitely; while in standing before the class to tell his story, he gains self-confidence.

That this work may result in the moral, emotional, and mental growth of the child, the stories and poems selected must be adapted to his powers of understanding and appreciation; they must appeal to his heart as well as to his head in order that he may be actively interested. If the subject matter be beyond the child's ability to understand, be becomes inattentive and his work is purely mechanical. There are children who will listen to a story or poem of which they do not understand a word, fascinated perhaps by the teller's personality or by the rhythm of the lines. This sort of entertainment does not result in growth; the child is simply a passive listener.

In the selection of stories and poems it must constantly be kept in mind that the child's ideals cannot be measured by the same standard as the adult's, but must be measured by standards adapted to his particular stage of development. When ideals above the child's plane of consciousness are thrust upon him, the result is disastrous. Either a dislike for or an indifference toward the good is created, or in his effort to live up to something beyond him he is made superficial and artificial—"a prig."

There are those who contend that it is not necessary for the child to understand and appreciate the poems that he memorizes, if only they be really good; that he will appreciate and understand them later, and that they will then be of worth to him. With this we do not agree. Is it not better for the child to become actively interested in the good literature adapted to his age, than to learn mechanically something that he may need in the future? If his enthusiasm has been aroused by these early stories and poems, will he not have a deeper interest and more intelligent appreciation for the literature that is to follow? If the poem that is adapted to a child's understanding be of worth, it contains some truth for the man as well as for the child. Is not this the reason why Field, Stevenson, Sherman, and others, who have written so delightfully for children, give pleasure to the "grown-up" as well? Can not the man interpret the simple poem in the light of his wider experience? It is not mere *acquaintance* with good literature that gives lasting pleasure; it is *knowing* it. The argument is often used that many children leave school so early that they never have an opportunity to become acquainted with much that is good in literature unless they memorize it in the first years of their school life. Which poem is of more worth to the individual,—the one which has appealed to heart, soul, and mind, that has aroused the deepest feeling, or the one which has been memorized mechanically? Which will he carry into his every-day life and remember in the strife and hurry of the work? In the one case the feelings have been aroused, and a taste for the good in books awakened, in the other the heart of the child has not been touched and no desire to seek further created.

If the child's activity is to be awakened so that he makes the stories and poems his own, care must be taken that he be given only the best. It is important that right habits in taste be formed at the beginning of the child's career. This demands a most careful selection of material in the first grade. If he comes to know Field, Stevenson, Sherman, Andersen, Grimm, and other writers of the same class, will the twaddle that is too often found in the many books prepared for children satisfy him? If the child is to love good literature, feed him upon it. Give him stories with strong underlying thoughts told in experiences which he can interpret and follow, in experiences which parallel those of his own life, and whether they be portrayed in the life of a prince, a frog, a pea, what you will, his imagination will fly with you to the uttermost parts of the earth. The farther he wanders from reality the greater his enjoyment, but the truth must be there. Give him poems filled with beautiful imagery that will lead him to Nature and help him to appreciate her, that will show him the noble, the true, the beautiful in life. The school has an opportunity to lay a foundation of such character that it will bear the superstructure that the man may wish to build.

The literature for children, then, must be child-like, simple, and full of fancy; it must influence the morals of the child by demanding moral judgments of approval or disapproval; it must be of permanent value, something that the child will read, and then read again and again. There are many stories and poems that meet these requirements. The temptation is strong to thrust too many of them upon the child, therefore it is necessary to study conditions and the needs of the class and of individuals before making the selections. An economy of time is effected by selecting stories and poems that are related to other studies. Lessons in the other subjects give a background and supply a knowledge which helps to make the story or poem more easily pictured and understood. If after observing and talking about the pet rabbits in the schoolroom during the nature lesson, the story of "Raggylug" is read or told (some parts have to be adapted), the children are deeply interested in it. The story itself attracts them, but the fact that they have been observing rabbits and have discovered some characteristics themselves give an added interest, while the acquaintance of "Raggylug" and "Molly Cotton Tail" arouses a deeper feeling for their pets. Thus one subject reacts upon the other. Nature-study, the work on primitive life, the words of our songs, all influence our selections. The holidays also furnish a motive for some of the literature, as do the children's daily experiences—for instance, *The Children's Hour* is given because it is so closely connected with the life of the child that he can understand it in the light of his own home experience. Many stories and poems are selected simply because they are of worth and the children enjoy them. Stories are sometimes selected to present a special moral lesson; thus *Prince Harweda* and *The Little Gray Grandmother* have had a beneficial effect upon children who have displayed symptoms of selfishness.

Conditions vary from year to year, so that the same stories and poems are not always given; one group of children may demand a thought in a simple form, another in a more advanced form; the needs of the class are always the determining factors in the selections. There are some selections, however, that seem to meet the requirements of every class, such as Longfellow's *Children's Hour*, "Hiawatha's Childhood," "The Four Winds" (from *Hiawatha*), Riley's *Song of the Brook*, Stockton's *Old Pipes and the Dryad*, Field's *Why do Bells at Christmas Ring*, Moore's *The Night before Christmas*, Stevenson's *Little Shadow* and *Land of Story Books*.

As has been previously suggested, the child must be an active listener—that is, he must be intellectually awake, to picture scenes and situations, to approve or disapprove. His feelings must be aroused to respond to the character's words and feelings; he must be alert to appreciate beauty and to discern truth, if there is to be any reaction upon his development. This activity depends upon the extent to which the child's interest is aroused and upon the way the story is presented.

To awaken this interest an effort is made to get the children in the right mood before telling the story. This is done by recalling, by means of a few questions, their stock of ideas related to the subject under discussion. This also helps them to listen understandingly. A still better way is to tell the story at a time when its subject is for some particular reason of vital interest to the children. For example, after the class has discussed the probable way in which primitive man had discovered fire and how to use it, and the effect it had had upon him, the *Story of Prometheus* was told. It has been found that a question which appeals to the curiosity and which helps the children to look for the thought in the story, is effective in making them alert listeners—thus, upon beginning *Prometheus*, the children were asked if they would like to hear "What some people, who lived long ago, believed was the way fire first came to the earth?"

The question is often raised whether children are more actively interested in the story that is told than in the one read. If the children are immature, there is no doubt that their attention is more easily held by telling the story; but, as a rule, the children in the first grade in the Horace Mann School are advanced enough to listen attentively to the reading of a story and it often seems better to let them become acquainted with it through the author—the teacher being only the medium for bringing the two together. Too often in telling a story it is the personality of the teacher that holds the children, rather than the spirit and charm of the story; there is also a tendency for the teacher to interpret the story for the children, thus preventing them from getting the author's thought for themselves.

Many of our greatest writers have written upon subjects that appeal to children and in a way that a child can understand and appreciate; to adapt or tell these stories deprives them of their principal charm and beauty, and so robs the child of one of the greatest pleasures that the story can give him. In introducing the child directly to the author's own words, he becomes familiar with the best usage of English and so increases his power of oral expression, whereas in telling the story much of the beauty of the language is lost, as the teacher, unless she memorizes the story, cannot pick and choose her words as the writer has done. If the story be memorized, too often the teacher's attention is so occupied in recalling its exact words that she does not observe the effect upon the class, and there is little spontaneity or dramatic effect in the telling. It also, necessarily, limits the number of stories told. A teacher, however, must be able to tell a story and tell it well, for this art will often be called into requisition when an author's thoughts are better fitted to the understanding of the child than is his language. The question whether a story be told or read rests with the teacher, as she can best determine in which way she secures the more satisfactory results.

Throughout the telling or reading of a story, questions are asked and suggestions made to help the child get the thought and catch the spirit; thus, in the *Story of Prometheus*, when the hero and his brother find themselves alone on the earth, these questions were asked the children: "How do you think they felt when they found themselves alone on the earth?" "What do you think they did?" and as the story goes on, "What do you think Prometheus thought of, that would help these men?" and later, when Zeus will not give him the fire, "What do you think Prometheus will do to get the fire?" and so on to the end of the story. It is often necessary to question the class as to the meaning of words, frequently to tell the meaning of a word. Occasionally situations in the story or some line of action may be developed in the class. Whenever the children can anticipate the action or event in the story, they enjoy it and it keeps them alert and interested.

Care is taken not to overdo the questioning during the telling of a story. The child becomes impatient and loses interest if he has to wait too long for the story to move; there is also danger of wandering from the thought so that the thread of the story is lost. Questions must be pointed and answers short to preserve the unity of the story.

When *Prometheus* was finished the children spontaneously expressed their opinion of it. They had caught the spirit and they sympathized with the hero in the feeling which led him to dare approach Zeus and steal from heaven the fire which he felt was so needed. They appreciated the sacrifice when he was chained to the mountain, and they rejoiced in his freedom as a just reward for a noble deed. The children are encouraged to express their opinions in this way. As a rule, if they have been interested in a story they will do so spontaneously; if they do not, a few questions as to the part of the story they liked best, or as to their opinion regarding some character, will often lead to a discussion. Questions asked by the children emphasize and bring out important points; and by asking them to imagine different scenes in the story the meaning is often made clearer. Frequently the descriptions of these scenes are read a second time—the children enjoy closing their eyes during this reading to see if they can see the picture. Again some child is asked to tell what the hero said on a particular occasion. These parts are also often read a second time. Illustrations quickly drawn on the blackboard by teacher or child are also used to emphasize some point. It is frequently necessary, especially in the early part of the year, to read or tell a story two or three times before the children fully grasp it. If they like the story they never grow tired of it, and they are encouraged in each reading to look for some points which they have not fully comprehended in the previous readings. Much illustrative work is done on blackboard and on paper in connection with the work in literature—the children choosing the points they wish to picture. Some scenes are worked out on the sand-table and are dramatized. In dramatizing, the aim is to have the children

"Go, my son, into the forest."
A Scene from *Hiawatha*, dramatized Out-of-doors

express the thought and feeling of the story in their own way, with as little direction as possible.

In the discussions of the story care must be taken to see that the children have the important events clearly in mind. As has been suggested, the selecting of these events is largely a matter of judgment and much practice is necessary. Questions aid the child in this, helping him to find the first important event, and then those that follow; if he selects some minor point he is led to see that it is unimportant. A series of pictures drawn on the blackboard, preferably by the children, and illustrating the important events in a story is helpful to summarize the essential points.

After the children have become familiar with a story, they are asked if they desire to tell it at home or to some other class. This gives a motive for the practice that is necessary to retell it well, for if a story is to be told to others, it must be well told. The spirit of competition proves helpful here as the child who tells the best story is selected to tell it in some other room. A feeling of responsibility to the family also helps, for if father, mother, brothers, and sisters are to listen to the story it must be told so that they may understand and enjoy it.

The retelling of the stories to entertain others gives an added value to the work in literature. It becomes a means of service to others, and leads the child to feel more closely his connection with the social world, as he feels he has an accomplishment with which he can give pleasure. This is an important phase of the work, and much emphasis is placed upon it.

The ability to tell stories varies greatly in children—to some it comes naturally, to others it is only with the hardest work that the most meager results are gained. It is impossbile to have one standard for a class; each child must be judged according to his ability. Sympathy and encouragement are needed for the child who is timid and shy, while restraint and guidance are needed to direct the talkative and impulsive child to sound thinking and definite oral expression.

In beginning the work of reproducing stories, a child who possesses self-confidence and some ability in telling stories, and who is willing to try, is chosen to tell the story first. The other members of the class are asked to listen carefully that they may help him, if he needs it, and that they may be able to make criticisms and suggestions after he has finished. There is danger here that the children may become over-critical and that they may make thoughtless criticisms. With a little care, however, the spirit of the class may be kept healthy, and by holding each child responsible for an honest opinion and for helpful suggestions the children soon become careful in the criticisms they offer. The teller of the story is held responsible for a truthful account of the events and characters. This is excellent training in accuracy of speech and in counteracting the tendency to exaggerate. He is also held responsible for the telling of all the important events in the story in their proper order. Our children as a rule use good English, so that it is not necessary for us to give as much attention to this branch of the work as it is in some schools, though it is frequently necessary for the teacher to make suggestions regarding the use of words and forms of expression. One thing that is criticised most severely by the children is the failure on the part of the story teller to make himself clearly understood. In correcting this fault the teacher first seeks the cause, whether it is timidity, poor enunciation, use of voice, or position in standing. The timid child must be encouraged and not criticised. An effort must be made to have him become absorbed in the story, or intent upon making the others hear and enjoy it. Poor enunciation, and wrong use of the voice, are treated at some other time, not in the story-telling period. The child is led to see the necessity of standing erect, with his head up, in order that he may be understood. It is also looked upon as a matter of courtesy due the class. When the children are held responsible for their opinion regarding the way the story is told, they have a deeper interest in listening, even though the story be told in an unimpressive way. They will also listen more attentively to more than one retelling, as they have often to do. After one child has told the story, and criticisms and suggestions have been made, there are always others who are anxious to try, thus giving opportunity for the practice which is necessary.

The aims in retelling the story vary; sometimes it is told giving only the facts, again with more detail. In the early part of the year the aim is to get the child to retell the story, giving the events in their logical sequence; this is all that can be accomplished with some children. In the latter part of the year many children gain power in giving the detail and consciously work for effective results.

Constant practice is given in retelling old stories, some time of each week being given to this. Often the class will select the story to be told and the child to tell it; sometimes the class chooses the story and the teacher chooses the teller; again some child will volunteer and choose the story he wishes to tell. Precaution must be taken that the retelling does not become routine.

The story of Mudjekeewis in the "Four Winds," from Longfellow's *Hiawatha*, was read and discussed in the manner suggested. The following is an exact reproduction of the narrative as told by one of the children.

Story of Mudjekeewis

"Once there was a great bear who lived among the mountains in the 'land of the White Rabbit.' He annoyed the people and did things they did not like. He had a belt of Wampum that the people wanted to get, but all were afraid to go there.

"One day a man named Mudjekeewis, and he was known to be very brave, so he took his war club and went up the mountains. He could hardly tell the bear from the rocks that were covered with gray moss. So pretty soon he got so he could see him, and he got so close the bear's claws almost touched him, and the breath of the bear warmed his hands. Then he drew the belt of Wampum 'over the eyes that saw not, over the ears that heard not,' and then he put it on. Then he struck the bear in the middle of the forehead. Then the bear got up and whimpered, and Mudjekeewis talked to him and told him he was a coward to sit there and whimper like an old woman. And he said, 'You are a coward, you go hiding in the forest; if you had conquered me, I would not whimper like you.' So he gave him another blow in the forehead and cracked his skull.

"When Mudjekeewis went to his home all the people cried, 'Honor be to Mudjekeewis. Call him no more Mudjekeewis; call him Kabeyun.' And they made him king of all the winds."

In studying a poem the same general principles are followed as in the story work. The poem is approached through some interest of the child; expectation is aroused; the right atmosphere is created; by questions and suggestions the child's ideas and past experiences are recalled so that he may hear the poem intelligently. The poem is then read with an occasional question to quicken thought, but care is taken not to break it into parts, as it is the poem as a whole, its spirit and its beauty that we wish to have sink into the heart of the child. After the reading, words that the child may not understand are explained, either by some classmate or by the teacher, for if the child is to picture clearly he must have a clear understanding of the words. The children select word pictures that they like best; the lines containing these are often read again and sometimes learned, if the description pleases them. The most rhythmical or musical parts are chosen in the same way and are usually reread. After the children have become thoroughly acquainted with the parts, the complete poem is always read to them again. By this time they are so familiar with it, that a little more work in repeating lines and stanzas commits it to memory. As a rule the class recites a poem with feeling and expression, since they understand and enjoy it. Not only is the poem recited in concert, but different children recite it individually and also in groups. In this work, as with the stories, the motive held before the children is to give pleasure to others. They are encouraged to recite their poems at home and they go into other classrooms in groups of three and four and recite. During the study frequent illustrations are drawn on blackboard and on paper, and many scenes are dramatized.

Many stories and poems are read to the children with no idea of having them reproduced. They are given because they are good and the children enjoy them. As a rule they are the longer stories. Stockton's *Old Pipes and the Dryad* is one of these. This does not mean that the children are merely passive listeners, on the contrary, they are generally most alert. The same preparation is given for this work as for the stories that are to be retold, questions are asked both by the teacher and by the children during the reading of the story, and the children are encouraged to anticipate events. The stories given in this way are thoroughly enjoyed and discussed freely in the class and among themselves. A part of each day is devoted to these stories.

We find in this work that the children show a great growth in their ability to listen, to reproduce, and to memorize. That they enjoy it, they show in their enthusiastic interest and in their attempts to tell original stories. Sometimes they try their hands at verse, as is shown by the accompanying stanzas:

"Then, upon one knee uprising."
A Scene from "Hiawatha's Childhood" Dramatized Out-of-doors

AB

"Ab was a brown baby,
He lived in a cave,
His mother whipped him
When he did n't behave.

"He once saw a snake
And that made him quake,
Then he ran home—
That 's the end of my poem."

"I know a little pussy
That never plays or mews,
But sits up in the branches
In the sweet spring dews.

"This is the little pussy-willow
In its silver coat and gray
That sits up in the branches
In the bright spring day."

In original story work little criticism is made; the child is left to offer freely and without restraint his ideas and feelings.

It is not in intellectual development, alone, that the children show the influence of the work in literature, but also in the growth of their moral natures and their feelings. This they reveal in their approval or disapproval of certain conduct, in their own ideals, in their efforts to do right, and in a keener appreciation of the beautiful. Many of the children respond to the spirit that is hidden in story and poetry, as is shown when they come and say, "Oh, I love that story," and when they ask for the same poem or story over and over again.

So far it is possible to tell how one teaches literature. But every teacher knows that the vital worth of story or poem is not in hearing the music of the words, nor in mastering their meaning, but rather in feeling the spirit. It is what it means to the child, what he can put into it, what he can take out of it for himself that determines the real value. To awaken this feeling, this response of spirit to spirit, should be the aim of all teaching of literature.

E. C. B.

READING

Not so many years ago it was thought that a child, upon entering school, must devote the greater part of the five or six hours he spent there in learning to read. So he worked, wriggled, and squirmed in his efforts to master the strange symbols in his wonderful primer. It is true he gave part of his time to writing, spelling, and his "tables," but reading had the lion's share. This method was probably the result of the general belief that knowledge was to be gained only from books. To-day these subjects share the child's attention with nature-study, literature, art, music, manual training, and physical exercise, because books are no longer considered the exclusive source of knowledge. The world about the child is an open book from which he must learn to read, and the importance of *doing* as well as *knowing* has come to be realized.

Although reading has been shorn of some of its glory, its importance in the education of the child is still appreciated, and its place is by no means a secondary one. In the first grade in the Horace Mann School more time is devoted to reading than to any other subject, in order that the first steps may be mastered in this year.

There are many different methods of teaching reading,—the best being still a subject of much discussion. It would undoubtedly be admitted by all, however, that the end in view is to give the child the power to get thought from printed symbols. Prof. Dewey's ideal, "The child should have a personal interest in what is read; a personal hunger for it, a personal power of satisfying the appetite," although a high one, does not seem too difficult to be attained. That the child may learn to read it is necessary that he have this "personal hunger", for it is only when he desires to learn to read that he becomes self-active. In learning to read, as in all other work, self-activity is the key-note to success. In some children it is necessary to arouse a desire to read, while others are eager to learn. The first requisite in arousing this desire and in keeping it alive, is a "personal interest in what is read." Every year there are some children who suddenly begin to improve in their reading, because their interest is aroused by some special story. A little girl in the class last year apparently had no interest in any of the reading lessons, to which the others responded readily. Special work was done with this child, but seemingly to no purpose. It was hoped that *Little Red Riding Hood*, or *The Three Bears*, would appeal to her but they did not. When the other children began to read Craik's *Bow Wow and Mew Mew* it seemed useless for her to attempt it, but the little cat and dog won her. She became so anxious to find out what happened next, that she made the effort to overcome the mechanical difficulties of the work and with a little help began to read.

There are, however, individual cases in which carefully selected subject matter fails to arouse interest. Occasionally we find a child who has no desire to read, because he is immature; he has developed more slowly than the other children. His power of concentration is weak, he apparently cannot visualize as the others do, and he is slow to interpret the spoken word. This is shown in the slow response to directions given to the class and in his lack of enjoyment in a story told for the first time. In some cases of this kind, especially if the child be somewhat younger than the others, it seems wise for him to spend a little more time in the Kindergarten, but if he be of average age, it is found that he ordinarily gains more by remaining with his own class. He must not be allowed to become discouraged, however, nor to feel that his responsibility in the class is less than that of the others, because he is not always held to their standards. He must be held to account for all that he is capable of doing, but nothing is gained by trying to force him beyond this. He needs to work slowly and to receive as much individual attention as can be given him. There is also the child who waits too long before learning to read. He finds the mechanical side of the work irksome, because the subject matter that he is able to read is quite beneath his intellectual enjoyment. This child needs to be pushed as rapidly as possible, for it is only as he masters the mechanical difficulties sufficiently to read what he enjoys that he gains power. The child who has had no stories told him does not know the joys of storyland and has no desire to wander there and make his own discoveries. Special attention is given this child in the story-telling period, and an effort is made to arouse his interest. The study of primitive life and of nature help to broaden his interests, and give an apperceptive basis for his work. Perhaps the child who is overfed with stories has as little ambition to learn to read as the one who is starved. All the stories he wishes to hear are told or read to him at home, so he does not feel the need of reading for himself. In consequence, he becomes indolent in so far as his reading is concerned. These problems all demand individual treatment. In solving them the physical condition of the child and his home influence must be taken into consideration.

In selecting the material for reading lessons it is necessary to consider the child's taste and interests, his ability to comprehend and appreciate, and the demands of his emotional nature. Too often the child's ability to understand and appreciate is underestimated,—more often perhaps than it is overestimated,—while the needs of his emotional nature are entirely lost sight of. This results in a lack of "personal interest in what is read" and the child becomes inactive in thought and feeling. The reading matter, then, to interest the child must be simple enough for him to read, but at the same time it must have some dramatic action to arouse his curiosity, some personality to appeal to his love and sympathy, and simple situations which he can easily picture. It is in meeting these demands that our primers and first readers often so woefully fail. No child's interest can be held very long with "I see the cat," "I can hit the ball with my bat," etc., nor with the long lists of words that usually appear in these books. As one looks them through what does he find to stimulate thought, to appeal to the imagination, or to satisfy the demands of the emotional nature? The child is never obliged to ask what will happen next, there are no scenes for him to picture, no new life into which he may enter. All is one dead level.

The selection of the books to be put into the hands of the children is a serious problem. The only solution seems to be to select the best that can be found approximately to meet the needs of the class. In selecting material for our reading lessons we are governed by the principles of interest and adaptation, which have been stated. We are also influenced by the other work of the grade. The discussions, illustrative and constructive work, and the dramatization connected with other studies stimulate and help to organize the child's thoughts and to broaden his interests. If the reading lesson be related to these subjects, he gains the thought from the printed page more readily because of his clear mental images. There is an economy of time in relating the reading in this way to other subjects, for interest is already awakened so that the reading period may be devoted entirely to reading. Many stories and poems are read, however, simply because the children enjoy them and because they are worthy of being read for their own sake.

Our first lessons are connected with the work on primitive life. The children's interest at this time is centered about the cave man—his mode of living, the way he secures his food, etc. Stanley Waterloo's *Story of Ab* pictures so clearly the scenes and the life of this time, that the children become so attached to Ab, that some of the suitable dramatic situations in his life have been adapted. These stories are printed in pamphlet form and given to each child to be put in his book-cover. In this way he makes his own collection of stories.

The following is the first page of one of these pamphlets:

HORACE MANN SCHOOL
FIRST GRADE READING NO. 2

One day Ab was swinging in a tree.
He was nine years old, now.
He saw something swinging in another tree.
It was another brown boy.
"Who are you?" asked Ab.
"I am Oak." "Who are you?"
"I am Ab. I am not afraid of you."
"I am not afraid of you, either," said Oak.
"Let us throw stones into the river," said Ab.
"All right," said Oak.
They played for a long time.
Then they went home.
The next day, Ab went to see Oak.
The boys went to play in the woods.
They played for a long time.

In preparing these lessons it has been the aim to express the thought in short simple sentences and to repeat certain essential words often enough to have the child become familiar with them. Because the child is not held responsible for knowing separately all of the words that appear in the lesson, and because he gains so many words from the content, the vocabulary is not limited to a very few words, but many new ones are often introduced in a single lesson, if clear expression of thought demands them.

Usually about three months are devoted to the stories about Ab, and during this time selections are also read from *Stepping-Stones to Literature* (First Reader), *Child Life* (First Reader), and *Cyr's Primer.* After this the stories of "Nino and Juanita" (connected with the work on primitive life) in Carroll's *Around the World* are read, also selections from Thompson's *Fairy Tales and Fables* (Second Reader), and from Norvell's *Second Book of Graded Classics.* About March the children begin to read Craik's *Bow Wow and Mew Mew.* This little book appeals so strongly to the children's interest in animal life that the cat and dog soon win their sympathy and affection. They greatly enjoy the conversational style of the story and they acquire many new words from the content. The situations are so simple that the children easily picture them and they are always anxious to find out what is going to happen next. Indeed, they are so anxious that they take their books home and read ahead. Mothers often report that their children spend all of their spare moments in reading until the story is finished. In the latter part of the year poems, which are studied in connection with the literature, are read. Each child is given a typewritten copy of the poem, which he puts in his book-cover, and at the end of the year he has a collection of most of those studied.

Interesting subject-matter is necessary to hold the child's attention and arouse his interest, but other factors must also be taken into consideration in this connection. As the child is incapable of prolonged attention at this age the lessons must be of short duration, not longer than ten or fifteen minutes at first, gradually increasing, as power in reading is gained, to half an hour. The attention and interest also depend upon the active share the child takes in the lesson. That each one may take part it has been found necessary to divide the class of twenty-five into two groups. These groups are graded as the children reveal their ability to read, so that they are not equal in numbers. Some children acquire the mechanics of reading much more easily than others, and if the slower children remain with these it is found that they become inattentive because they cannot follow them. On the other hand, the quicker children become inattentive while waiting for the others to work out something they already know. Objections have been offered to this grading on the ground that the quicker children stimulate the slower ones. But it has been found that even when this division is made there are always some few in each group who lead and furnish the impetus for the rest. During the first part of the year each group has two short lessons a day, when the length of the period is increased each group reads but once a day.

From the first the child's attention, when he reads, should be centered upon getting the thought. Mere repetition of words and sentences is not reading. Reading is thought getting; oral reading is thought giving. To get thought from the printed and written page the child must learn to recognize words in their printed and written forms, and, from the very first, should acquire the habit of looking for the thought which they contain. It must be remembered that the thoughts one child gets from words depend upon his experience in life, through which he interprets them. Therefore, to make the child a thoughtful reader, we must give him opportunities for broadening his experience, and for developing his power to feel. The children who bring to school a general knowledge that comes from travel and home influence, as do many of the pupils in the Horace Mann School, are able to read more intelligently than those whose opportunities have been more restricted. As has been said, relating reading to other studies is a great aid in getting the thought. Putting a question which demands looking for the main idea at the beginning of the lesson stimulates interest and helps the children to read for the thought. In special cases where there is some difficulty, a suggestion from another child, a quick sketch on the blackboard by the teacher of by some pupil, or a leading question has been found helpful. In the effort to assist thought getting there is, however, danger of distracting the child's attention by bringing in too many illustrations.

The same danger exists in the use of pictures. If wisely selected and carefully studied, they awaken interest and give a setting for the reading; but if too many are used the child's power of creating his own pictures is weakened, because he becomes dependent upon the illustration. This power of clearly picturing scenes and conditions is essential to clear thinking. Dramatizing is also valuable in helping the child to picture situations. If a scene can be dramatized quickly, a short time may be taken in the reading period, but if much time is necessary to carry the thought into action the attention is distracted from the real point of the lesson, and usually some more effective means of impressing the thought can be found.

Reading for the thought influences the child's attitude toward his reading. The subject-matter may be all that can be desired, but if the child is led to work simply for the words, it means nothing to him, and he is uninterested, inattentive, and inactive. On the other hand, if he be working for the thought he is attentive and active in finding out new words, for he feels the need of them, and he also gains many words unconsciously from the content. Reading with the thought uppermost in the child's mind not only influences his attitude toward reading, but effects his manner of reading. When he is striving to give the thought that he has discovered to some one else, he unconsciously resorts to every means in his power to make his idea clear, as he does in talking, using voice and gesture to help interpret. When he does not read the sentence intelligently, that is, so that it conveys the idea, a few leading questions will help him to get the thought and to give it clearly. Further, in reading to give the thought to others, the child sees the necessity of reading in a clear tone and loud enough to be understood. In order that the child may feel that he is reading for the pleasure of the others he stands in the front of the room, facing the class, when he reads. Occasionally a child selects a familiar story, one that he has previously read, and reads it to the class. This helps him to read clearly and distinctly and he gains much in power and self-confidence. Self-confidence is essential to good oral reading. Good oral reading also depends upon the right use of the voice. In the music and in the recitation of poems the children find that they can express different feelings by different tones. They soon apply this as they try to express the thought and feeling of what they are reading.

Intelligent reading, oral and silent, depends upon getting the thought; fluent reading and speed in getting thought depend upon the habit of seeing more than one word at a glance. Thought is expressed in groups of words; so by taking in a group of words at a glance the thought is gained more quickly and more easily than when one word is read at a time. To gain thought rapidly from the printed page is a necessity at the present time. The child needs this power throughout his school life, especially in the use of reference books. To read all that is required demands the power to go over many pages rapidly and so select the portions that are of value to him. The adult finds the same power convenient in becoming acquainted with the many books, magazines, and newspaper articles with which he wishes to be familiar and which are not worth the expenditure of much time. Fluent reading needs no defense; it is an accomplishment which all would be glad to possess. To read fluently one must see ahead, in order to get the thought. To use the eye in this way requires much training and special exercises to this end are given. Some of the exercises designed to give this eye training are as follows:

A familiar sentence, printed on a strip of cardboard, is held before the class long enough for them to glance through it quickly. Some child is then asked to give the sentence. As the vocabulary increases this may be done with new sentences as well. A similar exercise may be given with a book. The books are opened at a given signal, the children glance through a sentence, close the book at a signal, and some child reproduces it. It has also been found helpful to have the children visualize a group of unrelated words. Four or five words are arranged in a column and covered. In the lesson they are uncovered long enough for the children to glance at them, then some child is asked to give the list. In connection with this eye-training a word should be said against allowing the child to point at the words when he reads. This habit results in reading word by word and makes it impossible for the child to take in a number of words at a glance.

That the children may work for the thought from the first, and that they may begin to form the habit of seeing the sentences as a whole, short sentences are introduced in the first lessons. Each sentence is printed (a "Fulton Sign and Price Maker" is used for this work) on a strip of cardboard, and when the children have learned to recognize the individual sentences they are so arranged as to tell a story, and are printed upon a chart. The child thus becomes accustomed to seeing a group of sentences and his eye is trained to follow from one to another. As he gains power in concentration, new sentences are presented in groups on a chart. These same stories are then read from the pamphlets, and as the children gain power in reading, they read new stories from the pamphlets without any preparatory chart work.

Print is used from the first. This is done because the greater part of the reading matter with which the child comes into contact is printed,—the signs on the street, in the cars, his own picture books. It also avoids the transition from script to print, which seems psychologically wrong. The appearance of the written and printed word is so different that the child cannot be expected to recognize known written words in print. The child who becomes familiar with the printed forms from the first is ready to begin work in the book without loss of time. One of the arguments for using script is that the attention of the whole class may be focused upon the same sentence by writing it upon the blackboard. The same result may be secured by having sentences printed in large type on separate strips of cardboard and placed upon a cork bulletin board. These sentences may also be rearranged to suit the wish of teacher or class as easily as when written on the blackboard.

In the first lesson three sentences from the *Story of Ab* are generally given:

> "Ab was a little brown baby.
> He lived in a cave.
> The cave was in the woods."

This lesson is given the third or fourth day after the children enter school. It is not given before, as it is necessary to arouse interest in the life of the cave man and to give some idea of the condition of his time The previous talks about the cave man are recalled. After the children have told some facts that have interested them in this connection, they are asked if they would like to read a story about a little baby that lived in this time so long ago. The teacher tells the baby's name and why he was called "Ab." The children give their ideas about the baby, and then the sentence "Ab was a little brown baby" is put on the bulletin board before the class. The next question, "Where did he live?" is readily answered and then the sentence "He lived in a cave" is put on the bulletin board. With the two sentences before the class, some child is asked to point to the sentence that tells who Ab was; another to find the sentence that tells where he lived. Then a sentence is pointed to and some child is asked what it tells him. The question is asked, "Where was the cave?" All are anxious to tell that it was in the woods. Then the sentence "The cave was in the woods" is put up. When the three sentences are before the class, the children are asked to find the different ones. Then they are rearranged and the children are asked to find "He lived in a cave," etc., then to find and give the sentence that tells who Ab was. The lesson is closed by allowing two or three children to give the three sentences. This work is gone through with much spirit, and frequent questions are asked and suggestions made to hold the attention. The children become interested in Ab from the first and spend much time in drawing pictures of him and the cave on the blackboard. In the second lesson new sentences are introduced, the number depending upon the ability of the class. The children are asked to distinguish the new sentences from the old, and the lesson is conducted much as the first was, the idea being to have the children recognize the sentences.

Soon the children begin to differentiate words and some child will say "this is Ab" or "this is the cave." If they do not do this some one is asked if he can find the word that says "Ab," etc. From now on the children are asked to find the known words in the sentences and are helped to find the new ones. This is done by letting the child read through the sentence leaving out the unknown word, for frequently the content of the sentence will help him. Sometimes a suggestive question will throw light upon the matter. In trying to find out the new word the object is always to discover what the sentence is about. To keep this attitude of mind it is often wise to tell the word, rather than have the child lose the thought he is after, in his anxiety to get the word.

When the children begin to get the new sentences in this way, separate words are given them, printed on slips of cardboard. To become familiar with these words they match them to the words in the sentences they know. Frequently, a child will exclaim, "I know that word, it is in 'The bed was near the tree.' " Possibly the word was "near." Although he could not name it when it was unrelated, he had it associated with an idea. Many words are gained in this way. As unrelated words have little meaning for the child, a new word is not given until it has been developed in the sentence. Words are remembered and recognized most easily when they are associated with others. Experience has shown that a child may, with a little drill, come to know the new words that appear in the lesson before he begins to read, and when he meets these same words in the sentence he does not recognize them, because they meant nothing to him. When the child learns the new words as he needs them in the sentence, they immediately function—that is, become associated with an idea, and consequently make an impression upon him. If these words be reviewed at the close of the lesson, they are associated with some thought in the child's mind, and are more easily remembered. In this connection the question may be raised as to the advisability of having the child know every word in the sentence before he tries to read it. It does not seem altogether wise to cling too closely to this rule, as there are some dangers attending it. Frequently, in looking through a sentence a child will think he does not know a word, but if he read the sentence aloud, because the words seem to have a clearer meaning to him when he hears them, he gets the thought more easily, and he finds that he does know the word after all. If he puzzles over the word and tries to get it from silent reading his mind often becomes inactive and much time is lost. There is, also, the danger of his looking at but one word at a time, thus weakening his power of visualizing. It also results in a feeling on the part of the child, that he must study his words before he reads, and this tends to make him hesitate about standing and reading at sight. As has been suggested, it is a valuable exercise in training the eye to have the child glance through the sentence and reproduce it without referring to the book again. He is not held responsible for remembering each word individually, as often more new ones are introduced than he could possibly remember. If a word helps him to get the thought it has fulfilled its mission and, unless it is to be used frequently, it is useless to burden the child with trying to remember it. There are words, however, which from their nature will be used over and over; for these he is held responsible, and he must be able to recognize them immediately wherever he sees them. With these words his vocabulary increases very rapidly. In learning them some drill on separate words is necessary, but the best way for the child to become familiar with them is by much reading, for, as has been said, words that are associated in his mind with some thought are most easily remembered. In connection with this work many primers and first readers furnish a repetition of words in their text that is helpful. In using these readers, several are introduced at the same time, for as their vocabularies are similar, the child will meet the same words over and over, and will still be given some variety in the subject-matter. These books are used once or twice a week after the first month, in connection with the other reading lessons.

There are words like "there," "where," "what," etc., that do not suggest ideas, and need to be constantly brought before the children in order that they may be remembered. This is the drudgery of the beginner; here attention flags, and many devices are needed to keep the child interested. The following devices have been found helpful in this drill work. A list of the most troublesome words is put before the class, and the children name the words in concert. After this some one who is likely to know most of the words is asked to tell them and then others wish to attempt it. The child who tells them all wins the game. The spirit of competition proves a great stimulus in this work. Not more than five minutes are devoted to this exercise. The list of words is left where the children can see them at any time, for much is often accomplished at the free periods when some child that knows them likes to display his knowledge to his less fortunate brother. Another way of drilling for quick recognition is to show the words rapidly, giving each child a turn. If he gets the word right, he keeps it. The one getting the greatest number wins. It is advisable to have the most troublesome words appear several times. When words are particularly difficult, five or six of them are put before the class. After going over them together, some child chooses a word, while the others try to guess which one he has chosen; or some one may be sent from the room, the class choosing a word. When he is called back he tries to guess the word the class has chosen. All of this drill work must be done rapidly or it is of little value. A rapid review of familiar words, at the beginning of a lesson, is often an aid in helping the child to recognize them more readily in the lesson.

So far only the method of learning new words by means of visualization has been spoken of, but the children have been receiving daily practice in phonetics as well. This work, however, has not been a part of the reading lessons, for phonetics are of little value in reading until the child has gained some proficiency in getting separate words rapidly. If this method is used too soon it results in word reading, as it takes so long to get the word that the thought is lost. The children realize from the first that this work is to help them get new words. As soon as they know the sounds of the letters they are encouraged to use the initial sound together with the content of the sentence in getting new words. Some children are able to use phonetics in connection with their reading much sooner than others. It is found that the child who does not visualize easily makes rapid progress in reading after acquiring some knowledge of the sound of letters, while others have little power to get words in this way.

This work also leads to clearer enunciation, because the child begins to realize the value of the initial and final letters. In all exercises clear and distinct enunciation is required, that the habit of speaking distinctly may be formed. In the first lesson "f" is taken. Words beginning with this sound are pronounced by the teacher and the children are asked to listen to the first sound. When some child has discovered it, and the class have repeated it, the children are asked to give words beginning with the same sound. The card with "f" printed on it is left on the bulletin board, and from time to time during the day some one is asked to give the sound. All of the consonants are treated in this way. After the children have become familiar with four or five consonants they are combined with "an," "at," etc.

"An" is printed on the board and the known consonants are prefixed, the children being required to give the words rapidly. As the children learn the short vowel sounds, constant drill is given in getting simple unknown words. When considerable skill is shown in getting new words containing the short vowel sound, the long sounds are introduced. A word is printed on the board containing the long sound and another containing the short sound, for instance, "mate" and "mat." The children are asked to tell the difference in the appearance of the two words. The words are pronounced for them and several other examples given, until the children discover that the word ending in "e" has the long vowel sound. No diacritical marks are used, but much drill is given to form the habit of distinguishing between words containing the long and short sounds. By the end of the year the child should be able to get by the sound words of one syllable, made up of regular long and short vowels, consonants, and simple combinations of consonants, as "th," "sh," "wh," etc.

The children prepare none of their reading lessons at home, for this results, as a rule, in the child becoming dependent upon others for new words and in his forming bad habits in his reading. When the lesson is studied at home the child frequently memorizes it, so that the teacher is not able to judge of his power in getting words for himself. In reality the reading lessons are study periods. The aim is not to have the child reveal what he knows, only in so far as it helps to further his development, but to teach him how to work, to make him independent in getting new words, and in getting the thought, in forming right habits in his way of working. In a word, the aim is to help the child to help himself. After the child has studied his lesson at school in this way, he is encouraged to read it at home, as this gives him the practice in reading which is so necessary to his progress. As he gains power in reading he is encouraged to read independently at home.

It has been shown that sentences are used in the first lessons in reading and that the child reads for the thought from the first, that words are gained from their content, from their sounds, and by visualizing them. It is apparent that no one method, as the sentence method, the word method, or the phonetic method, is followed. We believe that the teacher must use any method that seems to meet the needs of the child, and that one teacher may give her pupil the power of gaining thought and help him to form right habits in reading in one way, while another teacher may do the same thing by an entirely different method.

The work done in school and the many reports from the home show that the children have gained much independence in reading by the end of the first year, that the majority of them are quite fearless in what they attempt to read, and that they get much pleasure from their reading.

E. C. B.

LANGUAGE

The dictionaries define language as "the method of expressing thought by means of human sounds together with the written or printed representation of such sounds." If this definition be interpreted literally, we can lay little claim to the formal teaching of language in the first year of our school, as we practically restrict ourselves to the first-mentioned means, that of oral expression.

Our aim is to lead the children to see that speech is a tool necessary for the transference of ideas, and, as such, must be used with facility and with skill, if it is to do its work efficiently. Our training, therefore, is directed to the end that the children acquire ability to express themselves freely, clearly, and correctly. In order to convey thought freely, the child must have a vocabulary sufficiently large to meet the ordinary demands; to speak clearly, this vocabulary must be in a usable form, *i.e.*, it must be a ready one in order that the child need not wander about in search of a proper medium to convey his idea; to speak correctly, he must be trained not only to conform to grammatical usage, but to recognize the finer distinctions in the meaning of words.

To realize this ideal is, as every teacher knows, an impossibility, but to work toward it lays a foundation at least, upon which the later years may build. No special period in the program is assigned to this work, but every hour of the day furnishes abundant opportunity for the necessary training. In the treatment of the various studies it has been shown how the child's thoughts and feelings are aroused by the careful selection of subject matter, and the no less careful presentation and development of such subject matter. It is in the expression of these thoughts that the most opportune occasions for language training present themselves. That the teacher is seizing the opportunity to give a "language lesson" does not occur to the child. As was pointed out in the introductory article, the subjects of the curriculum are not differentiated as they are presented to him. He realizes only that in relating something of interest to his classmates he must speak clearly and distinctly and tell his story well.

The necessary vocabulary is acquired unconsciously. The child borrows words and phrases from the stories that are read or told him, and, by using them in the reproduction of these same stories, makes them his own. He is at an imitative age and absorbs from all about him—his books, his teachers, his classmates.

The rambling, discursive style so common to the little child is generally accounted for by the lack of clear mental images. Such a child must be helped, first of all, to get his thoughts into shape. This may be accomplished by suggestions and questions which bring out the logical sequence of events and the main points in the narrative. This accomplished, he will soon express himself concisely and to the point.

The use of language that is free from bad grammatical errors is the heritage of most of our children, so we are spared one of the greatest problems in the teaching of English. We are, however, responsible for teaching a use of the mother tongue that is rhetorically correct. In other words, we must work for an expression that is clear and effective. Here again we take advantage of the imitative nature of the child, and put into his hands good literature from which he copies style and forms of expression as freely as he copied his vocabulary.

We must work also for exactness, for truthfulness, and for freedom from exaggeration. In this a child's classmates are a corrective influence upon him. When he is tempted to wander from the straight and narrow path of truth, he is promptly recalled. If, in reproducing a story, Cinderella's gown be changed from pink to blue, every right-minded child in the class will rise up to call the narrator to account.

There are also in every class children who need careful attention for reasons other than those mentioned above. Their ideas may be clear, their vocabulary not unduly limited, yet they fail to express themselves freely or clearly. These are the timid children whose self-consciousness is too great to allow them to forget themselves. Perhaps the best way to bring about the desired result in these cases is to rouse them to such a pitch of enthusiasm that they are carried out of themselves. If then their efforts are met with sympathy and encouragement, a distinct step has been gained. Not many experiences of this kind are needed to give even the extremely shy child some confidence in himself.

When the meaning is obscure from any cause, whether from involved ideas, from inaccurate speech, or from extreme timidity, it has been found helpful to allow the other children to question the speaker upon the points that have not been made clear. Sometimes a sketch upon the blackboard will aid the child to make himself understood. In interpreting his sketch he has something tangible from which to work. This helps to formulate his ideas and to express them definitely.

As has been previously stated, the language work of the first grade is confined almost entirely to oral expression. During the latter part of the year, however, when the children have acquired some proficiency in writing, short sentences are copied from the blackboard. These sentences are originally written by the teacher at the dictation of the children, who also suggest where capital letters are to be used and whether periods or interrogation points are necessary.

PENMANSHIP

When the child first enters school, especially if he has had no Kindergarten training, he shows a decided lack in muscular control. For this reason the early writing is done on the blackboard where large, free movements are possible. Such movements strengthen the muscles and develop the power to control them.

In order that the pupils may have this freedom of motion, it is necessary that they stand erect and away a little from the blackboard, and that they have a clear mental picture of what they are to write. Much of the cramped, slow writing, characteristic of little children, results from the fact that they have not this clear picture before they begin to write. From the first lesson, the children are made to feel that they must not begin a word until they know how it looks, and that having once begun they must not stop writing until it is finished, that is, they must not write one letter at a time, but must write continuously.

In the first lessons the teacher writes a simple word on the blackboard, and calls attention to the letters. The word is written three or four times at first, as the children are not able to visualize quickly. Then it is erased and several children are chosen to go to the blackboard and reproduce the word. Their aim is to write it as well as they can, without stopping until it is finished. The teacher writes the word upon the blackboard again and the children compare and criticise their work. The word is again erased and another group attempts to write. The interest of the rest of the class is held by watching those who are writing, especially to see how many succeed in reproducing the word without taking off the crayon. Generally, each child in a class of twenty-five will write, in this way, in a fifteen-minute period. When the children have gained some power in visualizing, and need less individual attention regarding their position, all go to the blackboard at once. The same kind of work is continued, the children aiming at some definite result in each lesson; for instance, to have all of the letters the same height in words like man, cave, etc., or to get the right proportion between loop letters and one-space letters. Each lesson shows to the children some point to be worked for. In every lesson time is given for criticism. Each child is encouraged to criticise his own work, and the class and the teacher also pass judgment and make suggestions. As the children become familiar with written words, short sentences are given them. These sentences are then visualized and written in the same way that the words were.

Practice is given upon separate letters when the children have trouble in getting their form in the word. They get a clearer picture of the letter when it stands alone. It has been found helpful to have the children join several of the same letters together in this practice, so keeping the habit of writing continuously. Besides the writing of words and sentences, exercises (consisting of up and down strokes, the making of circles, and the other drills which are suggested in writing-books) are frequently given to strengthen the muscles and to learn to control them.

The children begin in February to write on large sheets of paper (14″ x 9½″) with large marking crayons. The work on paper follows very closely the work done on the blackboard, with the same end in view. In using the crayon the children are shown how to hold it firmly without cramping the fingers, and are led to see the necessity of sitting correctly with the whole foot resting on the floor. Constant vigilance is necessary here to prevent the formation of bad habits.

After the children have gained some power in writing on the large sheets of paper, they begin to use small sheets (ruled with one-inch spaces) and a medium soft pencil. When this paper is introduced lessons are necessary to emphasize the size of the writing, the correct placing of sentences, the spacing of words, and the arrangement of the work upon the paper. At this time great emphasis is placed upon seeing clearly what is to be written before beginning. The children take much pride in the number of words they can write without looking at the copy.

In this grade it is often necessary to be satisfied with crude results, as in many cases it is impossible to secure better without harming the child, on account of his inability to visualize. It is possible, however, to see that every pupil does his best and that no one falls into careless habits.

E. C. B.

NUMBER

From the time that man first held social relations with his fellow-man, and began to exchange food, weapons, and ornaments, to invent, to construct, to travel, up to the present day, he has been asking the questions, "how many?" "how much?" "how far?" and "how long?" In the early stages of the development of the individual the answers have been vague and indefinite, like the Puris and Botocudos of South America who have only three words for number, "one," "two," and "many," or like the Tasmanian who has four words, "one," "two," "plenty," and "five."

The first number concepts of many children are equally indefinite, for they count "one," "two," "six," or something quite as vague. Because the need for number, as the tool of measurement, is a daily one both in the school and at home, it is our aim to lead the child from this vague, indefinite conception, where he is unable to discriminate, or to discern relations and differences, to a point where he may have a definite numerical concept.

When the child reaches out for his plaything he realizes that a distance exists between himself and it, and at once begins to estimate that relation. When he comes to understand and say "long," "short," "near," and "far," he is learning to discriminate and to see indefinite relations. Later when he can count out three red books and eliminate, for the time being, all the other properties, such as size and shape, then he is beginning to see more definite relations and to discriminate more closely. When he has reached the stage where he thinks one yard when it is mentioned and with a free-hand drawing can approximate its length, when he has a mental picture of the yard made up of three feet, then he has reached a point where he has a concept of exact relations. He has reached that step through having his number sense developed by many constructive operations, in which number relations are introduced as instruments of practical valuation. He has constantly used number as a measuring tool and through self-activity has learned that true number implies an exact image.

We sometimes make the mistake of thinking that the child who enters school is able to discern relations, and that he can discriminate because he glibly repeats the number names "one," "two," "three." But when he is asked to use these numbers, to count and measure three inches on his ruler, we discover that he has not developed beyond the "one," "two," "many" period. The counting process is one that follows directly this vague and indefinite condition. When we find a child who can not grasp the thought of putting the units in certain ordered relations to one another, we must make the starting point the vague "how much" and "how many." Let him work for a time with "more," "less," "larger," "smaller." For example; "My desk is greater in length than in width." To gain the "how many" idea let the child work with groups. For example: "There are more marbles in this box (6) than in that box (2); more children in this row than in that." Such operations should be repeated until the child learns that the "muchness" of a quantity is determined by the "how many" parts in it.

Then let the child learn by constructive work the relations of consecutively numbered objects. We may wish to show him how four differs from five. Give him the number of inches on his ruler that he knows (4). Add one more. He will express his idea as "one and one and one and one," or as "four and one more." The number name may then be given (5). He will soon come to realize that the simple name is much easier than the roundabout descriptive name. This may be continued with blocks, splints, and lines, until the child comes to realize that he cannot find how much one quantity differs from another without finding how many units there are in each. Next let him begin to arrange objects in groups and count the groups //, //, //, or ///, ///, ///. Let him begin exact measurement by counting. For example: Count the 2-inches on the foot ruler; the 3-inches; the 6-inches. After much work in counting we may begin simple measurements with the yard ruler. Measure the length of the room, width of sidewalk, and table. How many yards? Take a foot rule and measure the desk or table. Make a Manila paper measure one-half foot long. Measure the door, desk, or book. After this, the teacher should work for instantaneous recognition of number. The child must be trained to see a number of objects without stopping to count For example: ///, ////, /////. Blocks, books of equal size, or marbles may be used. What is sometimes spoken of as the rhythmic arrangement is often found helpful $\begin{array}{cc|cc} + & + & + & + \\ + & + & + & + \end{array}$ A glance shows eight: eight made up of two fours; of four twos; of eight ones. There should be no counting, but instantaneous recognition. Reproduction of arrangement should follow, so that the child may come to visualize quickly, and to see combinations. This work should be kept up until the child instantly thinks ///// when he sees // + ///, and until the substitution of the symbol gives the same mental experience *e. g.*, $2 + 3 = 5$. This operation should become almost automatic.

We are constantly using two processes in this work, and are teaching the child to see not only the whole made up of parts, but also the definite number of parts in the whole. This may be emphasized in another way by using blocks. For example: The 1×1×1 inch block, the 2×1×1 inch, the 3×1×1 inch, the 4×1×1 inch are selected. The child sees that the first mentioned block and the third are together equal to the fourth; that two of the second are equal to the fourth. Later on, having these exact relations in mind, he may use these blocks and count by twos, threes, fours, etc. For if the one-inch block is two, the 2×1×1 inch block is four. We must plan to have him keep in mind the relation of the measuring unit to the other units, but the value should be constantly changed to avoid the fixed value idea. This work comes as drill to help him in his constructive work. Many and varied illustrations should be used to render definite the images, for the wider his experience the more readily do his number facts prove available.

Many of the children who enter our school have learned to count and to use number in a very simple way, but not all; hence the discussion of these preliminary steps.

In the first grade work there is no number work given for the sake of number alone. It is given because it aids the child in his social relations, gives him clearer images in manual training, cooking, garden work, nature study, history, music, and art; teaches him to think, to observe, to discriminate, and so helps him to estimate, judge, test, and verify. While number comes up in an incidental way, and is a means to an end, it should never be taught in an accidental way. The teacher must have a very clear idea of what is to be done and how it is to be done. There must be nothing haphazard in its presentation. When difficulties arise demanding a new treatment of numerical facts there should be many similar experiences, so that the child, by observing the same relations in many different things and under many different conditions, comes to see the relations clearly and acquires a certain degree of rapidity and accuracy in dealing with the problems. These problems grow directly out of his occupation work. The child finds himself in need of certain numerical facts before he can construct. His interest leads him to make the effort to obtain these facts. He has an image of what he wishes to produce, he notes his materials, as yet an indefinite quantity, observes his measuring unit, judges or estimates, verifies, and finally performs the actual operation with the materials. Thus he proceeds from the vague and indefinite to the exact and definite. For example: In the fall he needs a cord to net into a band for his leaf press. Being given a piece of cord he is asked to measure off three feet, or one yard, judging first about how long a piece three feet would be. He then takes his ruler, corrects his first judgment, and cuts off his piece of cord. Before performing the actual operation necessary for his work he should always judge first, then measure or test, and lastly correct. He soon gains in accuracy of judgment, and by separating the whole into parts and reuniting the parts into a whole, he comes gradually to perform the same operation mentally, and thus develops definite concepts of number. He should be asked to state what he is thinking and doing clearly. Every time he is asked to measure a board, to proceed from the indefinite to the definite, he should see its possibilities, should pass judgment, test and verify. Eventually when he says a string is six inches long, he will he able to approximate very closely the exact length. The aim is to have the numerical description bring a picture. This is very practical work, for it leads in time to an economical use of material, and forms the habit of numerical analysis, as well as synthesis.

Only a few of the examples of the numerous constructive operations can be given in a description of this kind, but possibly those that are mentioned may suffice to show the close relation between number and occupation work: between number and social life. It is hoped that they will serve to demonstrate the fact that by relating number at all points it can be most economically taught.

The drawing of the pattern for his own moccasin, and the cutting and making of it, prove a profitable lesson. The child places his foot on the paper, drawing around it. Arcoss the ball of the foot he draws a line, extending it on either side two inches. From the toe he draws a vertical line three inches in length, and from the heel another vertical line two inches in length. With these lines as a guide he constructs a rectangular figure enclosing the area. He then cuts the chamois by the pattern of the rectangle. At the toe end he cuts on the center line three inches and, using a conductor's punch for the holes laces the toe together. He divides the heel end into three parts, folding the two outside strips across the center one and lacing. To adjust to the foot, holes one inch apart are made and a lacing put in to draw the moccasin up. The lacing is done with strings of chamois.

Again the making of a simple loom is a lesson demanding accuracy. The size and length are discussed. The one decided upon last year had the following measurements; From strips two inches wide by one-half inch thick, three strips for the base of the loom, ten inches long, were cut. (These are used instead of the solid board as they give the needed strength and are lighter.) From boards three inches wide by three-quarters of an inch thick, the ends of the loom, two strips each eight inches long, are cut. Nailing the narrow strips upon the end pieces, the body of the loom is formed. Dividing the surface of the top of the ends through the center, the problem of obtaining one-half of three-quarters of an inch is solved. A pencil line is drawn for the guide in driving the nails. Beginning one-half inch from the end, two nails one-quarter inch apart are driven half-way in. A space of one-half inch is left, and two more nails one-quarter inch apart are driven. This is continued across the two ends. Around these nails the warp is threaded and the loom is ready for the woof. Correct measurements insure good weaving later.

The lesson in laying out the flower beds proves an example in symmetry and accuracy. Each child is given a bed three feet by two feet to make, allowing for a one-foot path. The seeds are planted a specified distance apart, the distance being regulated by the variety of the seed. When the child sees his plants growing he realizes the test of his work.

One idea of time is sometimes presented through the use of the three-minute sand-glass. A game, a lesson, or the putting on of wraps emphasizes the value of time.

Experience in the making of change is had throughout the year when luncheon is bought by the teacher from the restaurant. Each child determines what his bill is and makes his own change.

The thermometer is very valuable, for it not only teaches the scientific facts, but also is an excellent opportunity for teaching the table of twos and tens. The learning to read tens and units by the thermometer is easily accomplished.

In the making of apple sauce, the cutting of the apples in halves, quarters, eighths, gives excellent drill in fractions. The measuring of the quantity of material used in making the sauce demands a knowledge of fractions.

Various games are introduced, the game of shuffleboard being one. The children make, and fill with sand, bags that weigh one-half lb., one lb., one and one-half lbs., two lbs. In the game the child may vary from day to day the value of the different weights; one day calling the one-half lb. weight two, and the others the proportionate numbers; or another day five. The children keep and add their own scores.

As an incidental topic in connection with the study of primitive life, a discussion of the natural standards of measure proves very interesting to the child and gives significance to the evolution of measures.

The way of obtaining the length of bow and arrow and their ratio has been suggested in a previous article. The evolution of the foot measure from the human foot; the use of the palm of the hand supposed to be four inches in width, accepted as a measure; the length of the forearm from the elbow to the end of the middle finger, a little over twenty-four inches, anciently called the Cubit; the barley corn one-third of an inch; the system of counting by means of tying knots; the use of wampum, bones, tin, etc., for money—all these and many other examples serve to relate the past and present and lead the child to see the difference between vague and varying standards and the exact standards of to-day. He is quick to realize the necessity of definite standards and accurate measurements.

The abstract work which comes as a result of the concrete work, of the measuring, weighing, counting, and the games is as follows:

Counting.—By 1's to 20, by 10's to 100, by 2's from 1 to 21, from 2 to 20, by 3's to 18, by 4's to 20, beginning with 1, 2, 3, 4, as used in the addition tables.

Integers.—Written to 100. (Note: the child is taught to write arbitrarily the street number of his own house.)

Addition Tables.—The combinations of numbers of one order with 1, 2, 3, and 4. Sums found by counting objects the value of each number and of each combination, as 3 and 2 are 5 should be memorized, and applied in increasing and decreasing a number of two orders, no carrying, no borrowing, as $5+4=9$; $25+4=29$; $9-4=5$; $29-4=25$.

Measurements and Comparisons.—Pint, quart; inch, foot; yard; cent, five-cent piece, and dime. Contents measured in pints and quarts. Length measured in inches and feet; no compound numbers. Buying and selling and making change with cents, nickels, and dimes. Quart measured by pint; feet measured by inches. Dime and five-cent piece measured by cent. Two groups of objects of the same kind compared to find how many more there are in one than in the other. Lengths of lines of integral number of feet or inches compared. One line is how much longer than another? Exercises within 20.

Problems.—Oral: Should be solved by arranging objects or their pictures, results by addition or subtraction when the numbers fall within the scope of the work of the grade. No formal analysis, only one operation in a single problem.

Written Work.—Addition and subtraction. Halves, thirds, fourths used in oral and written work.

Signs, +, −, =, ×, to be read "and," "less," "are," "times," at first.

In the child's use of number we wish to have him learn from the first to work rapidly and accurately. In his occupation work no measurement should be allowed to pass that is not accurate. He will form careless habits of thought and expression, unless held responsible at all times. We must not be discouraged if the true idea of number comes a little slowly, for a perfectly clear and definite conception is a matter of slow growth. The conscious grasp of number must come with its rational use. He must operate with many things and use many numbers before the true idea is developed. Through the many constructive processes in which he uses number he gains in judgment and independence, is led toward clear and definite ideas, and is prepared for the more abstract work in the upper grades.

M. C. W.

PHYSICAL EDUCATION

Each pupil is examined carefully by a physician connected with the Department of Physical Education. Tests of sight, hearing, nervous control, and the muscular system are made, and the condition of the throat and nasal passages, of the heart and lungs, and of the spine and feet, is determined. A report of this examination is sent to the parents and to the classroom teacher. The latter finds the information very valuable, for it enables her to so arrange her daily program that the physical side of the work shall receive prominence. This information leads the teacher to be just in her requirements, careful in the selection of seats for those who need consideration in the matter of sight and hearing, and judicious in her general treatment of the children. Where simple corrective exercises are needed, she may plan to present them in the room. When more serious defects exist, scientific treatment is given by a specialist in corrective gymnastics.

Because little children become easily fatigued, frequent periods for relaxation and free play are provided in the daily program of the classroom. When one set of muscles has been in use for a time, exercises demanding the use of another set are given. Games that require alertness, observation, and judgment are also given; for example, ring toss, battledoor and shuttlecock, shuffleboard, competitive games like shooting with bow and arrow, running races, and throwing bean-bags. These games and exercises require precision of movement and a quick response of the body to the mind, and are, therefore, an excellent training for children who have been allowed at home to take their own time to obey.

Mention has been made of the fact that the majority of our children lack muscular development and co-ordination. Much of the regular school work tends to develop and control the larger muscles; for example, planing, sawing, hammering, preparation of food for cooking, writing on the blackboard, or with crayon on large sheets of paper, and painting with large brushes.

Each class spends twenty minutes every day in the gymnasium under the direction of a special teacher. The general nature of this work is indicated by the following outline:

I. *Marching.*
  - Single file.
  - By twos.
  - By fours.
  - Diagonal marching.
  - Forward and backward.
  - On toes.
  - On heels.
  - Raising knees high in front
  - With knees bent.
  - Running on toes.

II. *Dancing.*
  - Simple preliminary steps.
    - Touch steps.
    - Follow step.
    - Step and hop.
    - Sliding step.
  - (1) Continuously with first right then left foot forward.
  - (2) Continuously four slides with right foot then four with left.
  - (3) Four slides with right, four with left foot, then eight walking steps forward.
  - (4) Same, using the eight steps to walk around partner.
  - (5) Four slides facing partner; four slides with back to partner.

III. *Floor Work.* (Given with and without musical dumbbells.)
  - (1) Clapping hands over head.
  - (2) Same, with heel raising.
  - (3) Clapping hands over head and behind both knees.
  - (4) Form stride position.
    Clapping hands over head and under alternate knee.
  - (5) Form stride position.
    "Chopping" movement.

(6) With left foot diagonally forward.
"Rowing" movement. Repeat with right foot forward.
(7) Form stride position—hands on hips.
Forward bending—touching floor with hands.
(8) Same position.
Alternate side-bending—touching floor with alternate hand.
(9) Fundamental position—arms overhead.
Alternate side-bending—"Trees blowing in the wind."
(10) With hands on hips.
Alternate knee upward bending—"Tramping horses, either heavy cart-horses or ponies."
(11) With hands on hips.
Bending knees and touching floor between the feet. "Frog" position.
(12) Jumping in place—"Bouncing like rubber balls."
(13) Same—separating feet sideways.

IV. *Apparatus Work.* (Given without emphasis on form.)
(1) Ropes:
Climbing.
Swinging.
(2) Stall bars:
Rapid climbing.
Hanging.
(3) Horizontal ladder:
Hand traveling forward.
Hand traveling sideways.
Traveling forward from round and round.
(4) Balance beams.
Walking in time to music.
(5) Giant stride.
With music—galop step right and left.
(6) Jump standards:
Used only as in a game. Rope at one foot in height.

V. *Games.*
(1) Clap.
Class at one end of room, leader in center. At

signal (clapping of hands) children run to other end of room. All who are touched must come into center. Game continues till one is left.

(2) Drop the handkerchief.
(3) Hare and Hound.
(4) Follow the Leader.
(5) "Did you ever see a Lassie?"
Imitation game; leader sets exercise, class follows.
(6) Crossing the Brook.
Use two mats for sides of brook. Children jump in turn from mat to mat, those touching the floor get feet wet, and have to go home. Increase width of brook till one child is left.
Different jumps may be used:
  (a) from one foot to other foot.
  (b) from one foot to same foot.
  (c) from one foot to both feet.
  (d) from both feet to both feet.
(7) Passing Bean-bag.
  (a) down two lines.
  (b) down and back two lines.
  (c) around a circle—any one missing must sit on floor.
  (b) two circles—leaders in center—throwing back to each in turn. Circle that is throwing to first wins the game.
(8) Free Play.
For a few moments allow the children the freedom of the gymnasium, specifying which apparatus may be used.

All the formal exercises are given with music.

In physical education we have been teaching games for what we have called recreative purposes, knowing that they offer some relief from the strain of technical gymnastics. Deeper study of the subject reveals the value of the game as expressional, and so necessitate a rehandling of the material from the departmental side. This readjustment, however, has given us a clue for our correlation with the other subjects of the curriculum.

While in the future the work for the little children should deal more with games, there are two points in our treatment of the subject which we wish to emphasize. First, in considering the expressional value of games, it is evident that the forms themselves represent an evolution. We would attempt to organize both traditional and constructive games in such a manner that the expression through them will become an evolving process, and, secondly, that this evolution will make clear the function of formal gymnastics. In order that any progression in expression may be realized, it is necessary that the games should be accompanied by such technical training as will enable the child to accomplish the next step in the process in the most efficient manner. From this point of view, the logical development in formal gymnastics is necessary not only for hygienic purposes, but also as a basis for evolving expression. In other words, formal gymnastics represent, not the end, but the necessary means to the larger and more important end

MUSIC

In teaching music in the first grade we attempt to keep a balance between the side of the work that aims at expression in singing and that which aims at appreciation in listening.

These two phases depend upon the power to image, and the power to express the image, or to act it out through such medium as is afforded by tones, words, rhythm, and melody. It is this exercise in imagination and expression that gives the true and fundamental value to music study as well as to every other so-called "thought study." Through it alone are to be reached legitimately the various effects of tone and delivery, which so many make the mistake of regarding as ends in themselves.

The best material for musical experience that properly balances and relates expression and interpretation is the song. In order to make the contents of songs vivid enough to impel pupils to act out the images through tone, it is important to choose songs whose necessary imaging lies within the experience of the children. This is the reason why we turn to the other activities of the school that provide sense perceptions, and the application of these perceptions to the various life relations, to furnish us with motifs.

The study of primitive life, literature, and nature offer the best material of this kind, but it should be remembered that correlation of songs with other studies is not a mere parallelism of theme and topics. Correlation must be a natural result, and it is so when each subject keeps so near to fundamental activities and interests, that it cannot help reflecting light upon the other. A list of songs given in the chart of correlations illustrates what is meant by the above.

The song itself is the best material for training the mind to its first perception of sounds and sound relations as they exist in musical form. These are most clearly grasped as forms, as they are seen to be a means for acting through the voice the little drama of the song. The following sketch of such a treatment will make the point plainer. Take, for instance, "The Snowflakes," from Neidlinger's *Small Songs for Small Singers:*

"The snowflakes falling down
Cover the ground with white.
They look like the stars that
We see in the sky at night;
And when the sun comes out,
They wink at him all the day
As the stars do at the moon,
With eyes that are full of play."

This is less a song of motion than of mood, description, and characterization. The prevailing mood is a sort of vivid stillness which calls for a flowing, gentle rhythm, a moderate tempo, a clear sustained "white voice," in order to act it out. These come to light quite naturally as the best way to express the mood of the song. The mood is shot through, however, with vivid little images of action, and the phonic values of special words are evident in trying to act out with the voice the images the words convey. The feeling of soft motion in "flakes falling" is expressed through the alliteration of "f"; the length and continuousness of spreading out can be expressed through the "o" and "v" in "cover." Such words as "stars" with the bursting effect of the letter "t" and the bright quality of "y" or "sky" with its open arched expanse of vowel are illustrations of the same translations of action and image into tone. The words "wink," "moon," "play" are further illustrations. The larger action of the breaking through of the sun calls for more power; a fuller, more positive quality of tone. The pupils listen to the song to find the high and low points, and to see why the use of such a pitch helps to express the idea in the accompanying word, as in the case of the word "sky." Passages moving downward, upward, and on a level are similarly analyzed, as for instance, "falling down"; and finally the motion of such passages is pictured on the board by chalk marks, taking care that the passage is not too long to be carried in the mind as a whole.

The song can be clapped so as to give its rhythm pattern. Out of this clapping grows the telegraph game of imitating various rhythmic figures tapped by the teacher. Children also indicate their recognition of recurring accent, of repetition of a given melodic phrase, or of a given rhythmic figure in the rhythmic pattern of the song. They sing the song in alternately silent and audible phrases to test power to carry the musical image mentally.

Besides the points growing out of this particular song, other associated ideas of loud and soft sounds, clear and dull, musical sounds and noise, sounds near and sounds distant, passages fast or slow, a series rhythmic or arrhythmic, of number of sounds in a series grow out of other observations.

On the side of perception of forms, the children carry to the second grade many general notions of rhythmic and melody relations and these two definite points; they can picture the melodic motion of short passages and reproduce by clapping the impression made by rhythmic passages of considerable length. No notation is given in this grade.

In general, then, the following points are a result of the first year's work in music:

(a) A tone more musically sustained and concentrated than the shouting voice of the too relaxed tone, both of which are found in the voices of little children.

(b) An improvement among and in most cases a complete conversion of monotone singers, and those whose intonation is faulty. (Special treatment is given for this.)

(c) A repertoire of twenty or thirty songs.

(d) A habit of listening.

(e) Ability to recognize and describe the more obvious effects arising from various relations of pitch, tempo, rhythm, force, etc.

Having thus briefly outlined what is being done, it would scarcely be proper to close the subject without speaking of a phase that needs to be worked out. It will supply several links now missing in the music work in that it will furnish the natural basis for it, and thus throw into right relations many parts which at present seem incomplete and unconnected, for the very lack of this basis of work.

As before mentioned, a song that is suitable for children must suggest such events, situations, and relations as lie within their experience—either in actual life or within their power of imagination. When left to themselves, children never fail to act out these images in their dramatic plays and games. This impulse to image and to act, then, is the basis of expression through sounds and of the interpretation of sounds that are used in such expressions.

It is extremely interesting to note how, even on the formal side, the importance of motion and activity is in evidence as the basis for the perception of those forms. The relation of motion and rhythm is a cosmic law that is not confined to human activities and is familiar to every one; but the connection between motion and a perception of melody is subtler, and has never been fully accounted for. Nevertheless, the feeling for pitch is in some curious way bound up with a sense of location in space measured vertically, and the feeling of melodic motion is attended with a physical sense of corresponding movement upward and downward. Rhythm and melody thus imply certain correlations of motion with time and space. Thus, even on the formal side, as well as on the side of expression, music is bound up with the experience of motion. Practically, the power to sing (or play) rhythmically depends on a power to make the larger and more common and general co-ordinations in a rhythmical way; and this power depends on these co-ordinations being made first in a free way without limitations of a formal sort. Thus power to enter into any sort of rhythmic performance of music depends on a power to co-ordinate freely in all sorts of activities.

In invading the field of activity for our original material, we realize that we are on ground that is not our own. We are under obligations to keep our work true to the general laws of development, and we are sure to make mistakes if we attempt to work out activity for our own ends without following the biological law that has developed all the arts of movement out of activity pure and simple. We, therefore, need expert assistance in organizing the activities of children. To be useful to us they should be organized on the basis of dramatic plays and games that call for imaging and acting developed out of the materials of everyday life and experience. Whether such an organization of plays and games can be made to hold as important a place in music as in physical education I cannot say, nor would I attempt to suggest further than this what might be developed from such a unification. The gain to music teaching would be great, however, and would round out the work at points where it is as yet incomplete.

H. P.

SEAT WORK

In some of the work of the first grade it is necessary to divide the class into two groups. While one group of children is reciting, the other is occupied with work at their seats. The aim of this seat work is not merely to keep the children occupied, but to help them to work independently, to teach them how to work neatly and accurately, to develop consideration for and courtesy toward others, and to supplement the work of the recitation so that the facts presented there may become more firmly fixed in the child's mind.

At first it is necessary for the teacher or her assistant to direct the seat work, but later the children assume the entire responsibility. If materials are needed, children are chosen to get them and to distribute them. New subjects are not introduced here, as it is not possible to take the time to explain how such work should be done. Variations of familiar work are introduced, so that it will not become routine, and the children are encouraged to exercise originality and independence in method and performance. Exercises are repeated until the pupils have gained enough power to secure results which give satisfaction and encouragement. As the child succeeds in accomplishing the work that is given him, he becomes more and more self-reliant and works more independently.

Time is taken at the close of each period to examine the results of the work. Commendation or criticism is given, so that the child feels that he is held accountable for what he does. The teacher also notes habits of work and results which need correction. Points which demand urgent attention are taken up at once, and the right method of working is emphasized.

The seat work is planned for the average ability of the class. For the children who work more quickly, extra work is sometimes provided or they are allowed to do as they wish when their work is finished, provided they do not disturb the class. These children are often allowed to help their neighbors, but never to the extent of substituting their labor. The slower children are encouraged to do the best they can, and an effort is made to correct habits and methods which result in slow work. In all of this work the necessity of considering others is emphasized, for those who are working or reciting must not be disturbed. Thus many valuable lessons in courtesy are given, especially when the children are free to do as they choose.

The following are some of the exercises that have proved satisfactory for seat work in the first grade. They are related to the other work in the grade and make repetition possible, at the same time introducing much variety.

1. Words which are used in the reading lessons are printed upon small slips of cardboard and are given to each child. The children keep these in envelopes, in their desk. Sentences from the reading sesson, printed in large type on strips of cardboard, are hung before the class. Each child reproduces these sentences with the words supplied him.

2. As soon as the above exercise is done easily, sentences are selected from the reading lesson, and the children build them from memory.

3. Original sentences are also made with these words.

4. As the children begin to read script, sentences are written on the blackboard, and reproduced with the printed words. This helps to associate the printed and the script form of the word.

5. Many words from the reading lesson, are printed upon paper, and the children paste these in their dictionaries.

6. The making of these dictionaries, is good seat work. Manila paper (8″ x 5″) is used for the leaves and colored cardboard (8½ x 5½) for the cover. The children fold these and tie them together, then paste a capital letter and a small one at the top of each page, in alphabetical order.

7. Letters printed upon inch squares of cardboard are used in reproducing words from the children's dictionaries, and also words written on the blackboard.

8. These letters are also used in building sentences.

9. In connection with phonetics, words are built with these letters. Phonograms like "an" or "it" are given, and the children prefix the consonant, making a list of words in this way; or lists of words containing the short sound of a vowel, or the long sound, may be made. The children must be able to pronounce these words.

10. Illustrating the reading lesson, a scene from primitive life, a story or poem, by drawing, painting, or paper cutting, is good seat work.

11. In the early part of the year when the children are first associating number with its symbol, a list of figures is written on the blackboard and the children string beads to correspond to the list, separating each group with a button mold. The same idea may be emphasized by laying sticks, and by pasting inch squares or circles of colored paper.

12. When the children begin to count by twos or threes, the laying of sticks and the pasting of squares or circles of colored paper may be used again. Directions are given to paste three twos, for example, and a list of the number of twos to be used is written on the blackboard, or the direction may be to arrange different numbers in groups of two. A list of the numbers to be so arranged is written on the blackboard.

13. The same ideas as the above may be carried out by using the ruler to draw lines. When the children are associating the quantity with the symbols, lines of varying lengths may be drawn. The required length of each line is written on the blackboard. When they are counting by twos, the children are directed to draw first a line two inches long, and then to add two inches to each succeeding line that they draw. Sometimes the arrangement of the lines is left to the children, again the arrangement is directed; for instance, "Draw the lines across the paper, one inch apart."

14. Beads, sticks, squares and circles of colored papers, and rulers are used in connection with the simple combinations of number that are studied before the children write the symbols.

15. Much of the manual training is carried over into the seat work. After the children have learned how to handle their materials, the actual work of making baskets, of weaving, of cordwork, etc., is done during this period.

E. C. B.

CHART SHOWING RELATION OF THE VARIOUS ACTIVIT

PRIMITIVE LIFE.	MANUAL TRAINING.	LITERATURE.	READING.	NATURE STUDY,
Hunting and Fishing Stage: **FOOD:** 1. Kinds: roots, berries, nuts, bark, plants, animals, birds, fishes.				Study of nuts and as food. Relatio hills, valleys, water-courses to li hunters and to distribution of foo
2. Means of securing food: digging, gathering, hunting, fishing.	Digging stick, clubs, stone axes, slings, rude traps, snares, spears, stone knives, weirs, nets, bow and arrow and quiver, skin bag, woven grass-bags, coiled baskets.	Land of Story Books (Stevenson). Story of Mowgli (Kipling)		Study of stones in nection with thei as primitive wea
3. Preparation.	Drying berries and fruits. *Out-door Cooking:* Roasting: meats, nuts, clams, apples, etc. Boiling with hot stones. *Laboratory Cooking:* Apple sauce, cranberries, baking apples, popping corn, etc. Pottery: coiled, modeled.	Grandmother's Kaoline (Wiltse).		
FIRE: 1. Discovery. 2. Method of fire-making. Effect: home, food, man.	Friction-made fire: rubbing, sawing, fire drills, percussion.	Secret of Fire (Cooke). Prometheus (Cooke).	Adaptation of Stanley Waterloo's "Story of Ab," "The Eskimo and Indian," from Carroll's "Around the World." Indian Legends from Norvell's "Graded Classics, No. 2." "Agoonack" and "Little Brown Baby," from "Seven Little Sisters." Dutton's "Fishing and Hunting."	
SHELTER affected by climatic condition and food supply. Temperate. Torrid. Frigid.	Representative scenes in sand-table: caves, huts, bark, woven twigs, skins, wigwams, tepees, wattled huts. igloo, stone hut.	Snow Baby (Peary). White Seal (Kipling).		
Furnishings.	*Clay figures:* Mats: rushes or flags, grasses, raffia, simple looms, hammocks. Totem poles. Ladders. Indian cradle. Eskimo lamps.			
DRESS:	Dressing of skins. Suits of cotton material to fit child: shirt, head-dress, shield, chamois moccasins decorated with beads.			
TRANSPORTATION:	Rafts, dugouts, canoes, sleds, harness, and litters.	Building of Canoe (Hiawatha).		
SOCIAL LIFE: 1. Family life. 2. Community life.		Hiawatha's Childhood. Peace Pipe (Hiawatha). Picture Writing (Hiawatha). Indian Lullaby. How the Earth was Peopled (Pratt). Legend of Winter and Summer (Pratt). Indian Boyhood (Eastman.) Four Winds (Hiawatha)	Typewritten copies.	

THE FIRST GRADE TO THE STUDY OF PRIMITIVE LIFE.

ART.	ARITHMETIC.	MUSIC.	PHYSICAL EDUCATION.
	Measurements and problems in connection with constructive work.		Games involving running, jumping, leaping, climbing trees, hanging, swinging. Throwing stones, rolling boulders. Digging. Hurling spears. Using bow and arrow in tournament on campus.
of pictures: er—Dicksee. n " trations from Kraemer's itall Menschheit. itive design studied and lied to bow and arrow.		Crooked Ear.	Dramatization of plays, stories, poems, and songs. Hunting Games. Buffalo, Eagle, Bear, Reindeer Dances. Acorn Dance (Ethnological Report). Hunt the Wolf.
itive design studied and lied to pottery. Illustrations of scenes from primitive life on blackboard and with charcoal, water color, and ink, on paper.			
n applied to tepees and vams.		The Happy Eskimo (Eleanor Smith), No. 1.	Eskimo Games (Ethnological Report). Dramatization of stories told in connection with catching seal, white bear, harnessing dogs. Building igloo from snow.
n applied to totem poles mats.			
ation of suits.			
of pictures. ander's Evolution of the		Mujje-Mukesim-au-Yaw-Yom (Worn-out Shoes I Am a-Wearing.) Indian Song, Wah-wah-taysee.	

CHART SHOWING RELATION OF THE VARIOUS ACTIVIT

PRIMITIVE LIFE.	MANUAL TRAINING.	LITERATURE.	READING.	NATURE STUDY.
	Leaf presses. Books for mounting leaves and flowers. Blue prints.	The Anxious Leaf (Beecher). Apollo and Daphne. Old Pipes and The Dryad (Stockton). Discontented Pine Tree. The Tree (Bjornsen). Pussy Willow (Lovejoy). Leaves at Play (Frank D. Sherman). Little by Little (Cook and McMurry). The Chestnut Boys (Towne).	Selections from Nature's Byways. Typewritten copy.	Trees: Oak, chestnut, ma apple, hickory. Observation of bra es, leaves, buds, soms, bark, fruits, and effec seasonal-changes
	Trellis. Marking label.			*Plant Life:* Planting seeds greenhouse, wi boxes, and gar and observatio growth. Nasturtium, morn glory, poppy, tulaca, mignon pansy, sweet sum, candy marigolds, and o annuals.
	Pressing and mounting of flowers.	The Narcissus (adapted), Francillon. Dandelion (Lovejoy's Nature and Verse) Garabrant. Dandelion and Shawondassee (Hiawatha). Daisies (F. D. Sherman). Golden Rod and Aster (Cooke). Violet (Jane Taylor). Forget-Me-Not (Selected)	Typewritten copy Typewritten copy.	Recognition of cultivated and common wild flo
		Lesson in Faith (Mrs. Gatty).		Life history of butterflies. Earth worms in con tion with garden
		How the Chipmunk Got Its Stripes (Cooke). Squirrel's Arithmetic (Lovejoy). Raggylug (Seton Thompson). Coming and Going (Beecher). How the Robin Came (adapted, Whittier). How the Robin Got Its Red Breast (Cooke). Emperor's Bird Nest (adapted from Longfellow). The Bluebird (selected). The Snowbird (F. D. Sherman.)		Animal study: Squirrels, rab guinea pigs. Aquarium: Goldfish, tadp snails. Observation of birds: English sparrow, in, bluebird. Vivarium: Chameleons, cate lars, green tree frogs.
		September (H. H. Jackson). October's Party (Lovejoy's Nature and Verse). November (Alice Cary).		Seasonal changes. fect upon man, an life, plant life.
	Weather charts. “ vane. Sun dial.	Proserpina (Cooke). Snow Song (Sherman). Wizard Frost (Sherman). Four Winds (Andersen). Wind (Christina Rossetti). The Wind and the Sun (Poulsson). The Four Winds (Sherman). Clouds (Sherman). Snow Queen, 2d Story (Andersen). March (Tree Top and Meadow). April (Tree Top and Meadow). Spring and Her Helpers (Poulsson). May (George McDonald).		Weather conditio Wind (use of mag needle), clouds, snow, frost, temperature (thermometer).

ART.	ARITHMETIC.	MUSIC.	PHYSICAL EXPRESSION.
-door sketching. wing from memory. nting of leaves, fruits, uds, twigs, and flowers.	Measurements in constructive work. Comparison of height of trees with given standards.		
nting of plants and flowers various stages of develop- ent.	Problems in constructive work and laying out of individual flower beds.		
ting of daffodil, tulip, nar- ssus, jonquil, carnation, ranium, violet, columbine, ndelion, jack-in-pulpit, lden-rod, aster, etc.		Dandelion (Chadwick). Where Do All the Daisies Go? (Songs and Games).	
ting of caterpillar, co- on, moth, or butterfly.		The Caterpillar (Neidlinger).	
ching from life.		The Bunny (Neidlinger). Foot-prints “	
ting of goldfish.		The Squirrel “	
ving of frogs' eggs and dpoles.		Tiddledy Winks and Tiddledy Wee (Neidlinger).	
ting of robin, bluebird.		Feeding the Chickens (Knowlton) Mr. Duck and Mr. Turkey. The Bluebird (Neidlinger). Robin Red Breast (Gaynor). The Robin's Song (Neidlinger). The Bird's Nest (Gaynor). The Bluebird (Songs and Games). The Call of the Crow (Knowlton). The Woodpecker (Eleanor Smith, No. 1). What Robin Told (Knowlton).	
iscape in color to repre- nt seasonal changes.		The Bird Band (Emile Poulsson, Holiday Songs). The Owl (Eleanor Smith, No. 1). The Snow Bird (Knowlton). Jack Frost (Neidlinger). Snowballs (Knowlton). December (Knowlton). The Christmas Tree (Foster). Merry Christmas (Knowlton).	
oration of weather charts.	Counting by 2's and 10's in using thermometer. Problems and measurements.	Christmas Carol (Gaynor). January (Nat. Songs, Knowlton). Sleighing Song (Gaynor). Kite Time (Knowlton). The Windy Day (Neidlinger). Spring is Coming (Oxfordshire's May Song). August Katydid Song (Knowlton).	

CHART SHOWING WORK OF THE FIRST GRADE

PRIMITIVE LIFE.	MANUAL TRAINING.	LITERATURE.	READING.	NATURE STUDY.
		My Shadow (Stevenson). Bed in Summer (Stevenson). A Fairy Story (F. D. Sherman). The Children's Hour (Longfellow). The Book Song (J. W. Riley). The Little Grey Grandmother (Harrison). Rhœcus (adapted, Lowell).	Typewritten.	
	Making dictionaries.	Solomon and the Bees (Cooke). The Ugly Duckling (Andersen).		
	Blotters; twine boxes; raffia baskets filled with popcorn or candy; magazine covers; calendars.	*Holidays:* Thanksgiving Day (Child). The First Thanksgiving (K. D. Wiggin). The First Christmas (Matthew ii).		
		The Symbol and the Satin (Eugene Field). Why Do Bells at Christmas Ring? (E. Field). St. Christopher and the Christ Child (Hofer). Santa Claus and the Mouse (Poulsson).	Typewritten.	
	Colonial hat for Washington's Birthday.	The Night Before Christmas (Moore).		
			Fairy Tales and Fables (Thompson). Bow-Wow and Mew-Mew (Craik). Graded Classics, No. II. (Norvell). Selections from Stepping Stones to Literature, 1st Reader (Arnold and Gilbert). Selections from Child Life (Blaisdell). Stories from the Poets (Atwater).	

NOT RELATED TO NATURE STUDY OF PRIMITIVE LIFE.

ART.	ARITHMETIC.	MUSIC.	PHYSICAL EXPRESSION.
strations in water color nd crayon.			
strations in color and charoal. ting of turkey, fruits, and umpkins.		Thanksgiving Day (Eleanor Smith, No. I.).	
ure Study: stine Madonna. adonna (Bouguereau). oly Night (Correggio). adonna (Murillo). ainting of Holly and Fir.		Christmas Carol (Songs of the Child World). Merry Christmas (Knowlton). We Three Kings of Orient Are. Merry Christmas Bells (Songs and Games). The First Christmas (Songs and Games). Shine Out, O Blessed Star! (Songs and Games).	
	Measurements and pattern for Colonial hat.	Flag Song (Eleanor Smith). Soldier's Song (Eleanor Smith). Patriotic Hymn (Knowlton). Soldiers True. The Tin Soldier (Neidlinger).	
	Integers: Writing to 100. Addition Tables: The combinations of one order with 1, 2, 3, and 4. Measurements: Pint, quart; inch, foot, yard; cent, five-cent piece, dime.	The Sandman (Eleanor Smit ., No. I). The Postman (Knowlton). The Scissors-Grinder (Knowlton) The See-Saw (Neidlinger). Rub-a-dub-dub (Gaynor). The Brownies (Gaynor). The Bee (Neidlinger). The Fireman (Nevin). When Little Children Sleep (Remecke).	

The work in literature that is given in the outline is often varied by selections from the following:

A Night with a Wolf	Bayard Taylor
How the Spark of Fire was Saved	Cooke
How the Beaver Got the Fire from the Pine Trees	Krackowizer
Legend of Northland	Cooke
Iroquois Lullaby	
Distribution of Indian People	James
How Summer was Made	Pratt
The Vine and the Oak	Emerson
Melampusox—How the Oak Became King	King
I 'll Tell You How the Leaves Came Down	Coolidge
The Chestnut Burr	Lovejoy
Baby Seed Song	E. Nesbit
The Chinese Story of the Narcissus	*Fairy Land of Flowers*
Dandelion	Whittier's *Child Life*
Sunflower (Clytie)	Francillon
Legend of Moccasin Flower	Goodale
Indian Legend of Arbutus	Poulsson
Mountain and Squirrel	Emerson
Crane's Express	*Child's World*
How the Birds Came to Have Feathers	Tanner
Birds of Killingworth (Adapted)	Longfellow
The Little Sandpiper	Thaxter
The Swallow's Nest	Arnold
The Broken Wing	Emerson
Sweet September	Geo. Arnold
October's Bright Blue Weather	H. H. Jackson
Autumn's Last Party	Poulsson
When the Woods Turn Brown	Lucy Larcom
November	H. H. Jackson
Snow-Flakes	Sherman
Winter	Sherman
Song for Winter	Sherman
Bag of Winds	*The Odyssey*
Funny Fellow	Sherman
What the Wind Brings	Eliot's *Poetry for Children*
Windy Night	Stevenson

Snow Man	Andersen
Swan Maidens	Cooke
March	Celia Thaxter
March	Sherman
April	Sherman
April	Thaxter
Swing Song	Stevenson
Young Night Thought	Stevenson
Shadow Pictures	F. D. Sherman
The Shadow	F. D. Sherman
The Bell of Atri (Adapted)	Longfellow
Prince Harweda	Harrison
Solomon and the Ants	Cooke
The Turkey	Alice Cary
Story of Pilgrims	
Christmas in Germany	Plan Book
Christmas in Holland	Plan Book
Christmas in England	Plan Book
The Coming of the Prince	Eugene Field
Legends of the Christmas	*Through the Year Book*, I.
While Shepherds Watched Their Flocks	Margaret Deland
Holly	*Nature in Verse*
The Christ Child	Hofer
Piccoln and the Shoe	Thaxter

Elementary School Curriculum

SECOND YEAR

PRIMITIVE LIFE

Certain phases of early social culture are studied in the second grade not for the sake of information about a remote and primitive period, but as a means for gaining a better understanding of the life of to-day. The underlying thought in the work of the year is to develop a community attitude which shall allow a natural and unified approach to many of the subjects that are commonly dealt with as separate studies.

The following topics are discussed and the problems raised in connection with work in manual training, art, nature study, music, English, and arithmetic. This relationship is most clearly shown in the work in manual training, art, and nature study. In manual training the children work out some of the material problems that primitive peoples faced, in art the decorative side becomes prominent, while in nature study the economic value of certain vegetables, flowers, and animals is developed.

In the second grade the work of social evolution closely follows that of the preceding year. The children in the first grade have gained a knowledge of community life in the hunting and fishing stages that has brought them in touch with primitive methods of securing food, shelter, and clothing. They have discovered that it was necessary for the people of this period not only to overcome the wild beasts, but also to contend with other warlike tribes for the protection of their homes and families. Conversation and stories have shown that gradually, as these tribes increased in numbers, the difficulty of obtaining a sufficient food supply was encountered and new means of securing it had to be devised. At the beginning of the second year these facts, briefly recalled, reëstablish the vivid pictures of this primitive life and form the basis necessary for the transition to the new phases of culture about to be studied. These represent the pastoral and agricultural stages, with constant comparison between this primitive existence and our modern life. Use is made, at all points, of the child's previous experiences both at home and at school.

For sake of dramatic illustration reference is made to (1) the Bible characters, David and Abraham, (2) the Swiss shepherd, (3) the shepherds of the northwest. These show in the simplest manner the successive situations of the shepherd, the nature of his equipment, and offer opportunities for studying the different problems he met in the struggle for an existence.

The former study of life during the hunting and fishing stages—especially the consideration of the uncertainty of obtaining food by these means—helps the children to appreciate the difficulties man found in supplying his natural needs, and enables them to understand how the thought arose of domesticating certain animals and thus guarding against the danger of want and starvation. This leads them to appreciate the advance to the pastoral stage and to discuss the different ways in which wild animals may be tamed and domesticated. They are also led to notice which animals can most nearly provide for themselves and give least trouble to their owners, which will be the most valuable for food, how they can be kept together and prevented from straying away, to what dangers they will be exposed, and what will have to be done when the food supply gives out.

As the children discuss the nature of pastoral life, they begin to see that here are many new conditions for man to meet which must necessarily change his manner of living. Such questions as the following help the children to realize what some of the conditions are: "Will these men be likely to choose a warm or a cold country? a moist or a dry one? Will they need for their flocks forests or open land? How long will they be likely to remain in one place? What kind of a house will it be wise for them to build, one like ours, or one like the nomadic hunter? How will they care for the sheep in stormy weather?" Such questions develop the necessity for migration when the pasturage is exhausted and the consequent need of shelters that can readily be moved from place to place. They also suggest that all household equipment must be very limited and bring up the question of just how such things would be transported.

After a thorough discussion of these points and many others with pictures and stories to help complete the outline, the children set to work to represent the life of this period and to work out some of the problems such a people must face. At first sketches are made on paper and on the blackboard showing a herder's encampment. These are criticised by the class and the one chosen that best represents the idea. With this as a guide the work of developing a representation on the sand-table begins. Earth is used as a medium, and various children are delegated by the class to bring stones for walls and defenses, and small pebbles for wells and the banks of a river or a brook. Others are asked to bring twigs to make a corral, while several are busy making tents for the shepherds, and shelters for the flocks. Bridges are made of twigs bound together, and stepping stones are used, or "a large tree felled and hurled across the water." The results of such a study show clay sheep feeding on grassy plain and hillside, drinking from the brook or well, and gathered in the corral, carefully guarded by clay shepherds dressed in burlap with rush hats and carrying shepherds' crooks made of bent willow twigs, while two or three shepherd dogs watch on the outskirts of the encampment. Shepherds on stilts are seen in the boggy marshes in pursuit of stray lambs. Horses with saddle-bags are ready for a journey. Rugs of woven mats are used on the floors of tents that are grouped about the fires.

Representation of pastoral life on the sand table

The changed conditions of this form of life as compared with that of the hunting tribe make it evident to the children that a different kind of leader is needed. Physical strength and skill are no longer the first essentials. They see that the leader must now be a man of much wisdom in order to settle disputes as to the duties of the different members, to adjust the disposition of the common property, and to direct the movements of the tribe. Such a leader they feel will likely be the one of most experience,—the elder or patriarch. He will guide the others by his counsel and to him they give obedience and reverence in return, "Just as it is at home" suggests one small person. They come to see that the living and working together of many people in this way need some rules or regulations so that the rights of each may be preserved, and that these rules are very much like our laws. They feel that now the tribe is having a peaceful and comfortable existence.

The pastoral stage in the social evolution of man has often been called the "play period of the race." This kind of life often involved vaulting, jumping, running after stray sheep, and stilt-walking. These activities have been perpetuated in many of our old games, such possibly as "Hare and Hounds," or "Run, Sheep, Run." The children often enter into the spirit of this life by working out for themselves original games or songs, or even by making stilts for their own use. Some impersonate the shepherds in their various activities, such as throwing the sling or playing in imagination on an improvised reed-pipe or shepherd's bag-pipe; others vault the aisles (imagined as boggy places), and rescue lambs from pits with the crook; still others impersonate the lambs and the shepherd dogs, with a group in a corner of the room representing the mother and small children weaving and cooking. The *Song of the Wool* and *The Shearers*—songs appropriate to this life,—also some old dances referring to weaving, have been thoroughly enjoyed by the children.

The children remember that the Indian women made simple gardens and cared for them, and that it was the same with the pastoral people. They are led to see, however, that the restlessness and irregular life of both the Indian and the shepherd has interfered with any serious attempt at agriculture. By conversation and questions it is shown that as the people prosper they have a greater desire to give up the migratory life and become more settled in order to care for their numerous flocks and to cultivate crops, that this work is gradually assumed by the men, who begin to think of owning permanent homes and of increasing their wealth. The children readily see that this form of living possesses many advantages of comfort and increased powers, but through their own planting experiences they come also to see that it demands much greater patience and foresight.

This leads to a more careful study of the farm life with which these children are acquainted. They tell about the farms they have visited in the summer, the work of the farmer and his family, the location of the farm, what animals were seen, what vegetables were raised, and the necessity of a water supply for gardens and stock. Then they discuss what the man would do who is just beginning to plant, who has no farm tools like those of to-day, and who knows very few vegetables. "Where will such a man place his farm? What kind of plants will he cultivate? How will he find out what plants are good for food and what are not? How can he bring water to his crop in case of drought?" Such questions serve to start the discussion and to develop thought as to the new problems.

The garden work of the imaginary farmer keeps in touch with the school garden. The children plant vegetables and grains, prepare the ground, weed and water it, and in the fall harvest the crops. They add to their knowledge of the Indian maize by reading *Hiawatha*, and find that it is one of the most important of the cultivated food plants. They are shown different varieties in the husks. Many have seen it growing and some have planted it in the school gardens or at their summer homes. The husking, cutting, and harvesting, with its uses as a food for animal and man, follow.

The problem of preparing some of the dried corn for cooking is studied. Some pound it and some grind it between stones. After these experiments, an Indian mealing-stone is shown to them and some of this corn is ground in it. The class then cooks corn cakes made of water, salt, and meal. Corn-meal mush is cooked and eaten also. As milk is one of the important products of this pastoral life, the children discuss its uses. Although most of these children have seen cows during the summer, few have had a chance to know much about their habits or their usefulness to man. Their shelter, food, craving for salt, their teeth as adapted to their function and manner of chewing the cud are discussed. The various products of milk are then studied. The rising of the cream is observed. This is skimmed off and the process of churning is then undertaken. Each child is given an individual pint cream jar one third full of cream. (They have previously made wooden covers and dashers to fit the jars in the manual training.) At the end of fifteen minutes of energetic churning, butter usually appears. It is then taken out, washed, salted, and eaten on crackers. The buttermilk is tasted, and its possible use to the farmer questioned. The old method of hand churning is compared with the up-to-date methods, the child readily realizing the great improvement made, as well as the saving of labor and time for man. vessels are made of clay for holding milk and for cooking grain, and lamps for oil, and candlesticks are built up out of this material and fired in the kiln.

A representation of a primitive farm is then worked out on the sand-table. The position of the cultivated fields is determined with reference to river and hill-side, and oats and corn are planted. Then the problem of a solid and strong house that could be kept comfortable in winter by a fire is studied. It is decided that such a house may be built of either logs or dried mud bricks, according to the surroundings. One of dried bricks is decided on and the bricks are made by hand and the walls built up. The question of covering the roof leads to various attempts to use bark, branches, and straw. Fences are made of stones and small twigs. Rakes, a simple wagon, a primitive plow and hoe are among the implements constructed. Toy animals, or those made of clay and painted, add to the realism of the scene.

Imaginative sketches of the farmer at work making hay, sowing seed "after Millet," and harvesting are made, the children often taking the pose. Market baskets and farmer's hats are also made of willow or ash splints and rushes.

The children can be brought to see how the new fact of living permanently on one piece of land leads to the idea of private ownership of the land. They readily understand how important it was for these people to protect themselves, their crops, and houses from warlike neighbors, and how forts and stockades came to be needed when a great many farmers lived close together. They see that under these conditions a permanent force of soldiers is desirable and that these will have to be supported by the farmer's giving up some of his crops as a tax. They see, too, that these conditions bring up many more difficult questions concerning laws and that the problem of governing is a much more difficult one.

All this work has helped the child to interpret the material side of his environment. He has been constantly adding to his experiences, and through the constant opportunities for initiative offered by the constructive work, by the illustrating and dramatizing of these processes of evolution, he has gained in judgment and in a realizing sense of his own power of production and creation.

E. B.

MANUAL TRAINING

The manual training in the second grade is a continuation and further development of that begun in the first. The aims, general character, and methods of presenting the subject are substantially the same. The work centers about the main lines of thought during the year, in connection with the study of social occupations as they are found among the pastoral and early agricultural peoples. As these types represent very simple conditions, the activities are still largely those involved in the securing of food, clothing, and shelter. The study of the first grade forms a basis for comparison, and aids in the solution of similar problems under new conditions.

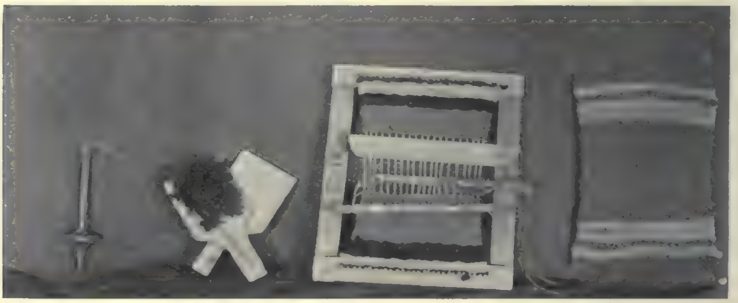
In the pastoral stage the domestication of animals, especially sheep, determined very largely the life and occupations of the people, and greatly enriched their sources of supply, particularly that of clothing. The child brings with him into the second grade a vivid picture of the dress of the primitive hunter. He has learned that he used woven grasses, leaves, and skins for clothing. He remembers that the skin garments were very hard to prepare, and that the cloth of woven grass and rushes was not strong nor soft, nor close and fine like his own clothing.

The children are now given pieces of silk, cotton, and woolen materials, and some raw wool from a fleece. By the sense of touch and examination of the ravelled threads they decide upon the woolen cloth as being of the same material as the fleece. They are asked to find out which articles of their clothing are made of wool, at what season we wear wool, and to name other things made of wool. Having traced the woolen materials back to the wool, they are ready for the study of the sheep. They are then taken to Central Park, where they see the sheep in flocks. They notice the shape of the body, head, legs, and tail; his manner of moving and feeding, and his way of giving alarm. Memory sketches are made on the return to the classroom. In the lesson following a fleece is shown, and by examination the children notice where the wool is thickest and softest, where finest and where coarsest. Different methods of shearing are discussed, and the old way compared with the new. Pictures help very much. Each child cuts a handful of wool from the fleece and examines it very carefully. One child discovers that it feels oily, another that it is not white, another that it is full of burrs and sticks. It is decided that it must be cleaned before it will be ready for spinning. They try cleaning by hand, but this method is decided to be too slow. Some one suggests washing. While talking, some of the children try to twist the fibers with their fingers and usually succeed in producing some short, uneven threads. This gives them a chance to imagine how the pastoral women must have started their spinning. Then they try to use their pencils to wind the thread, and suggest that sticks of some kind might have been used long ago for this. Gradually by getting used to the motion they are able to keep the pencil with the threads whirling, and the idea of the spindle is evolved. These are made of wood by the children and they spin a short length of the coarse wool.

As they decide to wash the wool, tubs of warm water and soap are brought to the classroom. They discover that much energy makes the wool mat together. They also discover that the oily feeling is gone, and that it does not spin as easily. The question now arises as to the best manner of getting the matted condition smoothed out, and finally combing is suggested. It is found that combing with the fingers is not a success, and that even the ordinary comb does not seem strong enough, so it is decided to make special carding combs. These are made of wood 4″ x 9″. The children use rulers, knives, hammers, and nails in construction. Four rows of nails about ¼″ apart complete the comb.

The children tried a few experiments with dyeing in their Indian work, so they are asked to suggest vegetables, berries, or roots that might give color to the wool. Such things as grapes, tomatoes, beets, onions, squash, poke berries, and blueberries are usually tried by the children. They cook the vegetables and crush the berries, and dip the wool only to find that most of the colors will not hold. Out of all the materials tried they find only a few, such as grape skins and tomatoes, that are satisfactory in giving a fairly good and fast color.

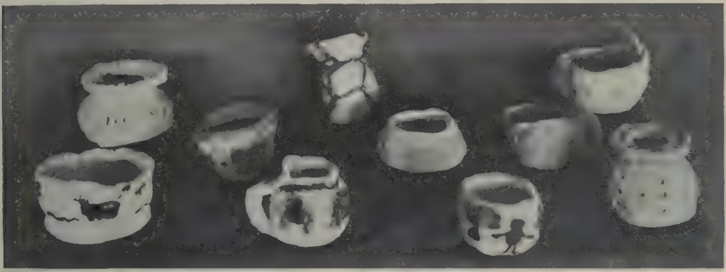
In the first grade the children had woven grasses on a rectangular frame making use only of their fingers. They now construct a somewhat similar frame and study various methods of securing the finer woven warp thread to the two end pieces. For the woof they use a manufactured yarn of different colors, blue, brown, black, and white. With this fine material the great length to be pulled through each time proves very awkward, and discussion of some way to relieve the difficulty develops the idea of winding the entire weaving thread on a small stick, thus producing a primitive shuttle. After some further work the amount of time and labor required to raise and lower the individual warp threads becomes very evident, and the advantage of some means by which a whole set of alternate threads may be raised or lowered at one time is apparent. After much study and after some suggestions and experiments several forms of string heddles are developed and put into use.



Spindle, carding combs, loom, and rug

It is decided that the rugs to be made will be more attractive if several colors are used, and a study ensues as to the easiest and best way to arrange the different colors. Stripes are decided upon, and a few suggestions are placed on the blackboard, discussed, and compared. After this each child decides upon his color scheme, and draws a pattern for his rug, which he carefully follows in the weaving. As a result there is much originality displayed, and a great variety in the productions made. This work occupies the principal part of the first half year, and in connection with it visits are made to the Natural History Museum, and to the Department of Domestic Art in Teachers College, where illustrations and demonstrations of the different processes are seen. The modern methods of carrying on these same processes are also touched upon. As there are no factories in the immediate neighborhood which can be visited, most of this work is illustrated by means of pictures enlightened by the experiences of children and teacher.

For the shepherds, pottery was even more of a necessity than for the hunter, and the children make a number of clay jars for holding water, and simple bowls for food, decorating them with figures of sheep and other animals. Baskets of splints are also woven for sifting the grain, and for purposes of storing and carrying.



Pottery coiled and moulded in the hand

In the representation of scenes from pastoral and agricultural life (see article on "Primitive Life") arranged on the sand-table, the types of shelter and the various activities are shown. In the pastoral scene there are movable tents with corrals, cattle, etc.; in the agricultural, a pueblo village or farm. The pueblo and farm buildings are made of clay, built of brick-like pieces made by hand. The farm buildings have roofs thatched with grass or straw, or covered with bark.

These sand-table representations are carried out in the same manner as in the first grade. A general plan is developed from the class, and sketched on the board, or drawn on paper. The divisions of water and land are made, the houses, corrals, and pasture lands located. The children are divided into groups to work out the different parts, one child in each group being selected as director of the group. The value of this coöperative work cannot be overestimated. It sums up and impresses the work of the year upon the children's minds, requires adjustment on the part of each child to the thoughts and ideas of the others, encourages the expression of their own ideas, and tends to unite their interests.

In all the work relating to the study of primitive life, the children's interest is keen, as they feel that they are dealing with facts. They are constantly led to see the part activities have had in the development of social life, to know them in their progressive stages, and through these to appreciate something of how man has developed and achieved results by the exercise of his ingenuity and skill.

Other work of the year is suggested by the nature study, literature, various holidays, and the immediate school needs. In the early fall when the seeds are being gathered from the flowers planted in the garden by the children the previous spring, small envelopes are made for keeping each different kind of seed until the next spring, when they will be used again. As each child has perhaps four or five of these envelopes to care for, boxes of cardboard are made to hold them. Books for mounting specimens of leaves and flowers studied are also made. When Robinson Crusoe is being read, sand-table representations showing his cave-house, etc., are made. At Christmas-time boxes or baskets for holding candy, picture frames of cardboard or raffia, or book marks of burlap are made; in March, pinwheels, kites, etc.

Woven baskets of willow and splint. Braided baskets of raffia

A variety of materials is used through the year: grass, ash sprints, rushes, willow and raffia for baskets; clay for pottery, houses, animals, and people; wood both prepared and in the form of twigs for houses, looms, and kites; paper for boxes, books, etc.; wool for weaving; and burlap for sewing.

The technical processes, sawing, nailing, measuring, etc., are largely a repetition of those of the first year—so that skill as well as a greater appreciation of tools and materials and their proper uses is gained.

In all the work, the method gives an opportunity for the exercise of ingenuity on the part of the children, and tends to develop the power of independent thought and expression.

L. H. W.

NATURE STUDY

"The world is so full of a number of things,
I am sure we should all be as happy as kings,"

sings Stevenson, and so sings every boy and girl out of the fullness of his heart in the very joy of living. If the mere sense of being a part of this teeming life has the effect of making a child as happy as a king, is it not reasonable to conclude that a more intimate knowledge of some of these things of which "the world is so full" will make his life broader and more sympathetic and his ideals more elevated and true?

But it is scarcely necessary at this late day to justify nature study as a part of the curriculum of our schools. It has long since earned its legitimate place on our programs, and it remains for us to make a selection, as wise as possible, from the great mass of material ready to our hands. In the second grade of the Horace Mann School the study of primitive life leads to a consideration of pastoral and agricultural peoples, and thus man's dependence upon the soil is impressed upon the minds of the children. The limitation of products which grow without cultivation is a topic for discussion, as is the necessity of tilling the soil as a means of furnishing an abundant food supply to man and to animals useful to man. Thus the economic aspect is not an unfamiliar one to the children, and we take advantage of this fact in the nature work, where we develop the utilitarian idea still further and make it one of the large factors in shaping our course for the year by studying animals and plants with special reference to how they effect man.

We select for this purpose trees, wild flowers, insects, and domestic animals with which our environment makes us familiar, and we plant and study the development of some of the grains and vegetables which are in common use. The seasonal changes also suggest as subjects for study, spring flowers, autumn leaves, berries, and familiar evergreens.

We begin our work in the fall by studying the plants which were started the previous spring in the school garden. These vary from year to year, but usually consist of some of the familiar, hardy plants which attract the children on account of their brilliancy of color, their delicacy, or their fragrance. Nasturtiums, morning glories, and poppies are favorites of the school garden and furnish good material for fall study. Color plays an important part in the fall work. Autumn leaves, bittersweet, color in fall flowers, vegetables, animals, and birds give the child a keen appreciation of harmony, and he learns to look for the advantage or disadvantage in these colors.

The study of seed dispersal is begun out-of-doors, along the roadsides, in vacant lots and parks, where the plant may be seen as a whole. A list is kept of plants which show that seeds are formed from flowers, as butter-and-eggs, evening primrose. The children investigate the way different pods open, the beautiful coloring and carving on the seeds and pods. They see in how many ways seeds are disseminated, using dandelion, milkweed, burdock, stick-tight, and maple. They press and mount a few of these. They learn to recognize many of the wild flowers, the asters, wild carrot, toad-flax in the fall; the hepatica, spring-beauty, anemone, bloodroot, and columbine in the spring. Many of our wild flowers are found on the northern part of the island near Fort Washington and Inwood, or across the Hudson at Fort Lee. We do not attempt to analyze but simply to remember names, and to appreciate their delicate beauty.

Later the children are encouraged to bring in leaves, especially those of the chestnut, horse-chestnut, and sweet gum, as these trees are to be watched through the year.

Excursions to Riverside park and Columbia campus enable the child to see the tree at work, adjusting itself to its life conditions. Attention is called to the shape, the branching, the bark, the leaves, and the fruit. Some of the leaves and burrs are carried back to the classroom. The former are drawn on the blackboard by the children, the latter are examined, noting the prickly covering of the nut, the meaning of the scar, and of the slender tips. Some of the nuts are then planted in order that future developments may be watched.

In the winter months these trees are visited again and their shape, branching, and lack of leaves noticed, while a third expedition in the spring gives a chance to look for buds and blossoms. At this time the development of twigs is watched in the classroom. The horse-chestnut is compared with the chestnut and sweet gum continually in regard to shape, bark, leaves, fruit, buds, flowers, and their development.

In the month of December the evergreens are introduced. Pine, spruce, and cedar are found on the campus. The children compare their forms with those of the deciduous trees, feel of the trunk to see if they are like the horse-chestnut, and notice how the leaves differ from those of the other trees studied. Such questions as "Why are leaves of this shape better for the evergreens than large, flat leaves?" give chance for much thoughtful discussion. The children find the fruit and look for the seed, and are interested to discover in how many ways the tree is o use to us. They notice the gracefulness and beauty of these trees in winter when covered with snow, and their aromatic leaves also are enjoyed. Sketches are made with crayons and water-colors. In order to see the different shaped needles and their arrangement, as well as to fix the name clearly in the mind, branches of white pine, spruce, hemlock, balsam, and cedar are given to each child. These trees, and especially the Christmas tree, give an incentive for stories and songs.

Our dependence upon trees is continually kept in mind—how they furnish us with shelter and with fuel, how much the comfort of our daily lives is due to them.

The indoor work carried on in the classroom and greenhouse enables us to do some careful observing. In the cold months the bulbs of hyacinths, jonquils, and tulips are planted in the greenhouse. Later these are brought into the classroom and some of the peculiarities of bulbous plants noticed: how the leaves grow, how the flower stalk rises from the ground. The plants are compared, both their points of similarity and of difference being noted. The beautiful color of the flowers is a never ending delight, and the children love to reproduce them in crayon and in water-color.

Lettuce, radishes, and other common vegetables are also started in the greenhouse. Each child takes a flower pot, fills it with soil, drops in the chosen seed, and places a small stick with his name on it in the soil. A glass tumbler is also given to each child. In the glass he fits a piece of blotting-paper, fills this with dry sawdust, and between the paper and the glass puts some of the same varieties of seeds that he previously planted in the flower pot. Then the sawdust is wet thoroughly. These glasses are kept on the desks and watched to see what will happen. A record is kept of the time of planting and of the "happenings." The children notice that the seed swells and wrinkles, that the root grows, that the stem shoots up. Comparisons are made each morning of the different stages of growth and of the differences in the development of the various plants. The effect of the planting of the seed in the pot is also watched. The breaking of the soil, the arched back of the newly arisen stem, the dropping of the seed coat, are all interesting phenomena and subjects for continual comparison with the plants in the tumbler. Later, when similar seeds are planted in the garden, the children will not feel obliged to dig them up in order to see how they are growing.

Garden work begins in April. Each child is given a piece of ground 4 x 6 feet, and prepares his soil, using a hoe, rake, and trowel as implements. The child chooses his seed, makes his furrow, and drops his seed as directed, covering carefully with trowel or rake. The gardens are visited very often, the time of planting recorded, the seeds watered and cared for, and before the close of school in June the children have the satisfaction of seeing "growing things" in their garden. The plants are cared for by the gardener during the summer and one of the first duties in the fall is a visit to the garden to see what may be harvested. This school garden has proved an incentive, and many a child has his own ground where, during the summer, he experiments to his heart's content.

As insects play an important part in the economy of nature they can not be omitted from a course in nature study that has as its controlling principle the human interest in natural things. The grasshopper, katydid, and cricket are selected for this year's work because their structure, function, and life history are less complicated than those of most members of this great family. As these creatures sometimes prove injurious to man we attempt to find out how and why. Their method of locomotion and the rapidity with which they move are practically the only characteristics that can be discovered by watching them in the warm, sunny field in which we find them. So a temporary home is provided by placing them in a large glass jar with sod in the bottom and netting stretched across the top. Here they can be more closely studied and their devastation of vegetation appreciated as we watch the inroads made upon the grains and vegetables with which we provide them. Their wonderful adaptation to their environment is noticed in their color and structure. The fact that they are interesting and harmless individually, and injurious to vegetation only when they appear in very great numbers is emphasized in order that the children will not be tempted ruthlessly to destroy them.

In their study of primitive life the children have had it impressed upon them that man's comfort is dependent upon the domestication of animals scarcely less than upon the cultivation of the soil. So they are ready to consider such questions as "How are these creatures fitted by nature to be useful to man?" "How can we best care for them?" The animals selected for study are the sheep, cow, horse, and dog. When feasible, visits are made to Central Park where the children may observe the sheep in flocks and singly. They notice the wool, where it is thickest, its color, the sheep's manner of moving (gregarious) and feeding. As many of these children spend the summer in the country, and a number have owned a sheep or lamb as a pet, they are therefore able to give accurate and interesting information learned at first hand. Professor Hodge says: "By its associations with the child's spontaneous activities in caring for his pet this knowledge becomes a part of his life and will enter into the formation of his character to exert its civilizing influence as long as he lives." When possible, a visit is made to a farm where the cow and goat may be seen. The observation is naturally limited, and it is necessary to supplement this with pictures and stories. We have been fortunate in having a beautiful shepherd dog come to the classroom. He has been willing to lend himself for observation and has not objected to the inquisitive but gentle hands and voices. Other dogs have visited us at different times, and enabled us to make comparisons with the shepherd dog. Here again pictures by Mauve, and stories of dogs help our ideas to become clearer.

In the study of the horse the children are asked to observe carefully the different horses they see, comparing the work-horse and the carriage-horse. They are asked to gain as far as possible a knowledge of his disposition and intelligence, as well as the best methods of caring for him, including his food, shelter, the importance of cleanliness, consideration in the matter of rest and of drawing heavy loads.

Two aquaria have been under close observation in the classroom, a fresh-water aquarium and one with salt water. Tadpoles, snails, and fish are in one, while the salt-water aquarium contains sea lettuce, clams, oysters, and mussels. The children in March watch the development of the toad's eggs and later of the half-grown tadpoles. No formal study is carried on. The aquaria are simply kept in the schoolroom as interesting things to watch and to care for.

As man, together with the plants and animals upon which he is dependent, is greatly influenced by atmospheric conditions, these phenomena are carefully observed throughout the year with special reference to their effect upon life.

A rainy day gives opportunity to observe the dark clouds that bring rain. Water, its uses to plants and animals, frost and snow and their effects, are each observed in turn. Such points as the power of water to float things, its uses in preparation of food, its help in transportation and fire, its necessity for the growth of plants, and for the life of man and beast, make the children realize our dependence upon it. In the lesson on snow the crystals are caught and the size and shape examined. Some of the memory sketches show that the children have observed carefully the softness and thickness of the covering snow spreads over the earth, and its use to plant life is discussed. In connection with this we learn bits from *Snowbound*, Emerson's *Snow Storm*, or the first verse of Longfellow's *Snowflake*. We even aspire to make our own snow poems, and the results are often unique.

In a lesson on the wind the class is taken out-of-doors and the bending of the trees, the movements of the clouds, and the fluttering of flags and handkerchiefs noted. The directions are taught from the position of the sun, and the children are soon able to announce when they come to school: "There is a west wind this morning." From this time on their attention is called to the direction of the wind when it rains, when it snows, when it is fair. F. D. Sherman's *The Four Winds*, and Eugene Field's *Night Winds* are great favorites at this time. Temperature, its relation to winds and its effect upon the habits of man, animals, and plants, is continually kept in mind.

And why is all this done? That the child may learn to love and value the perfect laws of nature by his own observations and comparisons, for surely nothing will help to civilize and humanize our children more than getting at the heart of nature. Also the more the child knows of life the greater will be his desire to protect, the less to destroy. Besides all these benefits it gives an added interest which he carries into all his school work and makes his own life fuller and richer every year. Heine says: "Nature, like a great poet, knows how to produce the grandest effects with the fewest materials. You have only a sun, trees, flowers, water, and love. In sooth, should the last be absent from the heart of the beholder, the aspect of the whole may be poor enough, for then the sun is only so many miles in diameter, the trees are good for fuel, and flowers classified according to their stamens, and water is wet."

E. B.

ART

A high authority in the educational world has recently said that the end and aim of all education is the development of appreciation, or judgments of worth; that a knowledge of truth is but the beginning of education. Judgments of fact are the beginning, judgments of worth the end. If this be true of general education, it is true of art education in a special sense, for knowledge of art-form, experience in creative effort, and training in art expression, all these are outgrowths of appreciation. Then we may say that the purpose of an art course in the elementary school (and in fact in all schools) is to train the power of appreciation.

The art course in many schools at the present time is based upon object drawing. This tends to narrow the child's experience to the single art of painting. Such drawing is a necessary part of an art course, yet it is only a part, and we believe that the course should be made as broad and as inclusive as possible, to awaken the appreciative faculties early and strengthen and refine them as the child progresses. It seems to us that since there are analogies of structure in all the fine arts, the training in the elementary school should not only quicken the child now, but should also serve as a preparation for creative work in other special directions, not only in the space arts (painting, sculpture, architecture, and design), but in the other fine arts as well (music, poetry, and dramatic art).

In the second and third grades we find the child at a very impressionable, a very enthusiastic age. He enjoys every kind of occupation, and while he will do some things surprisingly well, advanced standards of excellence must not be forced upon him. His teachable attitude and freshness of vision must be allowed to grow along healthful, natural lines of appreciation and power to do, preserving always the spontaneity and naïveté that form his chief charm. It is now a simple matter to bring to the child the beauty of the world. For example, rhythm of movement can be expressed not only by dancing and music, but by lines and spots of color. At first there is wonder, but in a little while the child comes to know that these new things are the same old things he has seen everywhere. He invents, he creates for himself in rhythmic pattern and color. The flowers bending in the wind, the animals at play, the dances of children, all can be subjects for this new expression. A new world is open and the joy of exploration is stimulated. From so small a beginning the idea of harmony may grow to form a part of the child's life. We do not expect a manifestation of much appreciation, but are content if the pupils are trained along lines which lead to appreciation.

The main divisions of the art program should be these:

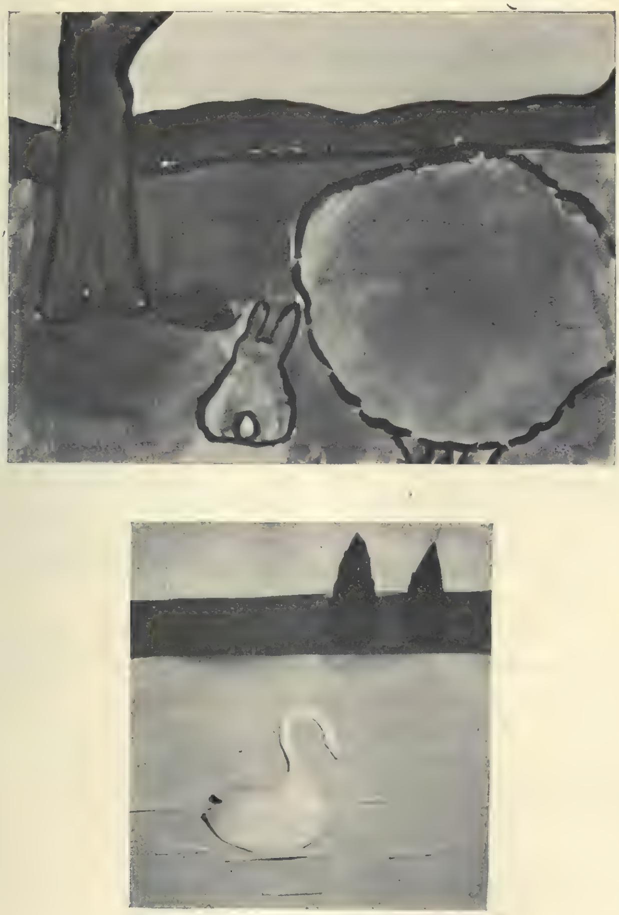
a. Work that calls for exercise of judgment and personal feeling as to arrangement and color. This may include simple patterns with application, and pictorial drawings of flowers, trees, houses, animals, figures, and landscape.

b. Designs, drawings, or pictures relating to other subjects in the curriculum.

c. Drawing and painting from nature.

The subjects used for art lessons are as varied as the child's interests. He is studying flowers, seeds, fruits, vegetables, domestic animals, pets, and some of the simple processes of agricultural and pastoral life. He is reading fairy tales and Mother Goose stories, so he paints, draws, and cuts these things. Sometimes he works directly from the object, sometimes from large drawings made by the teacher, and again from memory or from imagination.

Nature-drawing may be nature-study and only distantly related to art, or it may be both representation and art. To us it seems a mistake to give nature-drawing in only the former way in an art course. We think that since combinations of lines, masses, and colors form the basis for all visual arts mere nature-drawing is a special and limited field, and that, unless there is an art use for it, it becomes merely formal. We will illustrate this point with flowers, although any other natural form or object would answer as well. In the fall we draw and paint flowers, not because we think that this is the foundation or beginning of an art course, but for reasons of convenience. The flowers which the children planted in the spring are now blooming in the school garden. The children are especially interested in these flowers and are happy to use them. Furthermore the school is so situated that it is easy to get the wayside flowers. We do not, however, even at this time confine the work to nature studies alone, but use them in a manner that gives opportunity for free personal choice, comparison, selection, and invention. The children make covers for their pressed leaves or flowers. On these they paint a flower or leaf and add the simple letters. Or we have them make book-marks, or any other things that can be used and on which a flower illustration will be appropriate.

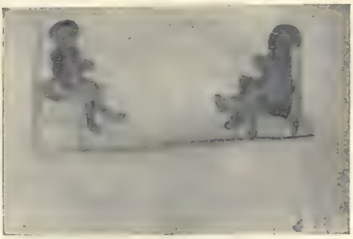


Illustrations of mass arrangement (see page 146).

Illustration may be purely literature, recording facts, a kind of picture writing; but as a subject in an art course it must be much more. While we do not attempt to make little children compose pictures, we adopt various expedients for causing them to think of arrangement, interesting masses of dark and light, and of color harmony. The last is easily secured with small children by giving them a set of crayons or colored papers in harmonious tints. The arrangement of masses is rather more difficult. One or two approaches are suggested. The child may cut from paper the objects which he intends to put in his picture and may be induced to play them about until he finds an arrangement which he likes better than others. Or a landscape background already cut and pasted may be taken into the class and the children may be asked to cut the figures and animals and place them in the landscape. At other times several different drawings of the subject for illustration may be made on the blackboard and the children questioned as to their choice, and their reasons for it. Or the teacher may be allowed to make the drawing at the dictation of one child or the class, being told what to draw and where to draw it.

The study of pictures will acquaint the child with what is good and, unconsciously, help him to make his own picture. Of course little or nothing can be said to a small child about the art structure of a picture because this does not appeal to him yet. It is the subject, the action, the color which appeals to him now. For this reason those pictures which are simple are best. It does not follow that poor or even mediocre pictures should be given him simply because they tell a story or are bright in color. They must be good, though not necessarily the greatest masterpieces. The principal works of such artists as Bontet de Monvel, R. Anning Bell, Nicholson, Carton Moore Parke, Kate Greenaway, Walter Crane, Elizabeth Shippen Green, Jessie Wilcox Smith, Millet, Landseer, Rosa Bonheur, Madame Ronner, Eugene Lambert, and John Swan, certain Madonnas by the masters, and some Japanese prints, may be procured in inexpensive form. Let the children attempt to copy parts or the whole of some of these for study of action, color, and construction. Stories relating to the picture under discussion, or to the life of the artist, may add to the interest. Children often distinguish between good and bad pictures far better than adults imagine. In this school a short time ago a second-grade teacher found that one of her little girls had cut all the illustrations out of a story book she was reading. When asked why she had done it, she replied "Because I did not like them." Why did she not like them? They were not pretty like the ones she thought herself. She said she always cut out and threw away the pictures that she did not like in her story book.

For figure drawing we prefer the moving pose to one that is sustained. The child after holding a position for a time becomes tired, and therefore no matter how happy and proud he may be of the honor of posing he loses the lines of action. On the other hand, if he performs an action, walks, runs, stoops, throws a ball, catches an apple, and holds the pose no longer than the action requires, it is full of interest and life. In drawing the moving pose, the child must be alert and intent while it is acted. He has time to seize only the impression of the whole, the vital lines, and he paints his little figure with spirit, with life. There has been no time to notice and draw buttons or other unimportant detail. For more careful study of proportion he draws from large charts prepared by the teacher. In giving a lesson on figure drawing, we call a child to the front of the class and ask him to perform some action, ask him to run, for instance. The children are asked to notice the line of the back. He runs several times until the children have that line fixed in mind. Another child runs in order that the first may see. Next notice the line of the supporting leg, then the lines of the other leg. Notice the relation of the head to the line of the back, the position of the arms, where the leg bends, where the knee is. Here a little girl runs to show that the knee is barely visible below the short skirt. Children are very apt to draw the bend



much lower, perhaps half way between the knee and ankle. Notice that the elbow comes at the waist. If there is time, it is very helpful to have a child at the blackboard draw the angle of each line as we talk of it. By the time we are ready to paint several children—both boys and girls—have run. The class may be told to paint a boy, or a girl, or each child may be allowed to choose the one he prefers. They paint in mass, directly with the brush, and have plenty of paint mixed before they begin. Far more is gained if the work is put up for the class to criticise, and the class then tries again immediately. At the next lesson the teacher will bring in for copying several large charts with good drawings of a child running in different positions. This time the drawing is made in pencil outline that chance may be given for correction of mistakes. It is surprising to see how much the class sees and how the children enjoy improving their drawings When the outlines are as good as they are able to make them, are better than their mass painting of the former lesson, they paint in full color. The child churning, illustrated herewith, was given in connection with the study of agricultural life. When the class studies about butter-making each child churns and makes butter in the manual training lesson. We take the same subject in the art period.

Child churning.

A little work in design is given in this grade. Motifs for elementary pattern consist of natural forms, or groupings of lines and spots. Rhythmical borders of straight lines are given first. These are followed by patterns for small rugs to be woven with the manual training teacher in connection with the primitive life work. These are simple banded rugs for which the child chooses the number of bands, the spacing of them, and his colors. Later borders of flowers, trees, animals, and figures, are made and sometimes applied to bowls, book-covers, festival cards, and such things. A series of lessons may be given in the following way. Paint, colored crayons, or colored papers may be used.

Lesson I. A straight line border in two harmonious colors, one light, one dark. If this kind of creative effort is new to the children, connect it in some way with their experience in other forms of rhythmic movement such as music, marching, dancing.

In one class the children were asked in what order they marched to chapel. The answer came, "Two and two." The teacher drew this on the blackboard. The next question was how did they march to gymnasium. The answer came immediately this time, "One and one." This was drawn on the board. Next, "Did they ever march in any other way?" "Yes, in the gymnasium they marched four and four." One boy said, "Soldiers sometimes march twenty abreast." These arrangements were put on the board. It was easy to see that we could not have groups of twenty lines. It was decided to use groups of one, two, three, or four lines, so that we could alternate three and two, two and one, and so on. The children were each asked to think what grouping they wanted, how long and how wide the lines should be, whether all should be the same length and width, how much space should be between the groups, between the lines in the same group. If there is time, let each child make two or three borders of different spacings, and judge for himself which is best, or put up all of the work in the front of the room for a class criticism. This problem of dividing a given space by a few vertical lines may seem to some very simple for second grade. But it may be done in a very beautiful way, a very great way. It certainly is a far cry from these childlike efforts to the superb triglyphs of the Parthenon, yet it is the same problem.

Lesson II. A border of flowers, three colors, one for background, one for stem and leaves, one for flowers. Care is taken to choose colors of different values.

The last lesson is referred to, and a few of the borders shown.

The children are asked if they have ever seen flowers growing in a row? Yes, they have. Where? Some have planted them in that way in their own little spot in the school garden, or they have seen them in gardens in the country. There may be at this time a row of hyacinths, tulips, crocuses in the window box. Very well, then make a row or border of flowers. Each child chooses his own flower, and draws from memory. If there is time, each may choose his own colors.

Lesson III. At the last lesson, each child made a small border of flowers. This time the whole class will make one large border, and each child will make one panel for it. The teacher may select the flower or the class may. It is well to bring a few of these flowers into the room, or, if that is impossible, draw several on the blackboard. Similar exercises may be given using fruits, trees, animals, children, for the motifs.

The experience gained in spacing borders will help the child in the far more difficult spacing of pictures, provided the pictures are very simple, a flower, an animal, a child in a space, a landscape, sky, grass, trees. Any lesson may be repeated as a memory exercise. Last year in one class the last exercise in this series was a frieze, eighteen inches high, across the front of the room This was placed just above the blackboard. It was made in panels. Each panel was composed of a simple landscape background with some domestic animal or fowl placed within it. The teacher cut and pasted the large parts of the background, sky, grass, water. The children cut and placed the animals, fowls, ripples on the water, and other small parts.

Festivals may serve as occasions for direct application both of elementary design and pictorial illustration. If only a print be pasted on a card, the child exercises choice in spacing and in the color of card. If he paints or cuts the picture, there is further choice and selection.

We use different materials, water-color paints, colored crayons, pencil, scissors, and colored papers. The work is done sometimes in mass, at other times in outline. Often the same subject is done in both ways. In such cases the mass painting is given first, afterward the outline drawing. Our reasons for this order are that we believe that in working in mass the child looks for the large general character, which is most important, and is the thing we want, but that if he works in mass alone, for any length of time, he becomes careless, because in this way it is quite easy to get an effect that satisfies him. When he is satisfied he makes no further effort and therefore his improvement is slight. To bear us out in this point we should like to call attention to graded school exhibits where mass drawing and painting is adhered to. In these exhibits it is quite noticeable that the work improves for the first few years, but that in the grammar grades it is little if any better than in the primary grades, oftentimes not so good. We think this lack of improvement may be overcome by outline drawing or paper applique; for both of these methods of approach naturally demand closer study. Mistakes in an outline drawing are glaring. The child is no longer satisfied, consequently he renews his effort. And it is by effort, and the awakening of his critical judgment which constantly spurs him on to new effort, that he grows, and growth is the essential in all study, in all living. We have found no medium that makes the child's idea so clear to himself as paper applique. In this material the edges of his masses must be definite, quite different from the uncertain edges that he may get in other mediums. For this reason the same lesson may with profit be given twice. But here we should give the scissors and paper first and follow it with mass painting, quite the reverse of the order in mass painting and outline drawing. It will be seen that lessons are progressive, given in series, not single detached subjects. Yet the subject or material is changed often enough to bring the interest back to a fresh starting point.

Easter card, block print outline.

As often as time will permit, the work of the class is put up in front at the close of the lesson, so as to give the children an opportunity to compare their own work with that of their friends. They talk, compare, and criticise it. Each one is eager to give his opinion.

If at the end of the year the children can put a little more beauty into their work than at the beginning, if they can see their own mistakes and the mistakes of their classmates more quickly when the work is put up for criticism, and can know a little more surely how to correct these mistakes, if they can see the good points and tell why they are good, they have gained as much as we expect.

M. C. U.

READING AND LITERATURE

Most children come to the second grade with their desire to read stimulated by the beginning made in the first year. They know that being able to read fluently will enable them to get for themselves the stories of which they are so fond. Our first care, then, is to select reading material of some literary value which will interest the children and arouse enthusiasm to a degree which will place the drudgery of word-getting in the background. An interesting book for the beginning of the year, and one which contains many a favorite, is Haliburton and Nowell's *Graded Classics*, Book II. For an advanced class Baker and Carpenter's *Second Year Language Reader*, or Baldwin's *Fairy Tales and Fables* would be better. Some of our reading material is selected because of its relation to other lines of work as *Children of the Cliff* and *Lodrix*, by Wiley and Edick. Both of these books deal with the lives of pastoral people. Dutton's *In Field and Pasture* gives glimpses of various people in primitive times and is especially good on account of its many excellent illustrations. Children gain from such books as these not only valuable information, but also many ideas for invention along the lines of handwork and art. Other books which we use and which are greatly enjoyed are *Graded Classics* Book III, *Letters from a Cat*, H. H., and *Old Greek Stories*, Emma Firth.

We believe in allowing the children to read a great deal this year merely for the sake of practice. They acquired in the first grade a good vocabulary and some power of word-getting, and now need an opportunity to use this knowledge. In many of our reading lessons the words are easy and the language simple and readily understood, so that explanations or comment by the teacher are unnecessary, providing the children are interested. If the reader comes upon a word which he does not know, he is told. Stories are read usually only once. Many of the new words will occur again in the next lesson and the child will gain more power by reading something new than by rereading what is already half memorized. Favorite stories or poems are, of course, frequently chosen by the children to be read several times during the year.

As an incentive to reading at home, the children are often allowed to bring a book to school and entertain their classmates by reading to them. A child who has no suitable book at home is given one from the school supply. A collection of books in the schoolroom from which a child may draw when not otherwise occupied is also a pleasing incentive. The teacher occasionally reads a part of a story to the children, leaving it at an interesting point for them to finish by themselves. The book from that time on is in great demand.

It is now a well recognized fact that a knowledge of phonetics is of invaluable assistance to a child who is learning to read. It gives him the power to discover new words and thus become independent. The second-year work deals principally with the sounds of many combinations of letters such as *oa*, *ea*, *ai*, *er*, *ir*, *ur*, *or*, *ar*, *ay*, *ight*, *kn*, *wr*, *sc*, *tch*, *ow*, *on*, and *th*. If *th* is the new sound to be taught, the children pronounce such words as thick, thin, think, and then listen to the first sound as the teacher pronounces. Many words containing the sound are then written on the blackboard and pronounced by the children. Later, words containing different phonograms are placed before the children such as meat, beet, boat, and they tell the letters which make the phonogram and give its sound. Time is saved by giving the children printed lists of words and allowing them to pronounce in turn, after the new sound has been taught. Concert work in this exercise is not good, as it gives an opportunity for careless pronunciation on the part of some children and the habit of depending upon a leader. The reading lesson for the day often furnishes a motive for the lesson in phonetics. If such words as *apart*, *amount*, *voice*, are among the new words of the lesson, these and many other words containing the sounds *ar*, *ou*, and *oi* are given in the phonetic lesson which precedes the reading.

Perhaps in the second grade more than in any other a teacher is obliged to work for expression. The children now are so intent upon word-getting that they often fail to grasp the meaning of a sentence, and as a result read words rather than ideas. To prevent this, a child must be fairly sure of the words and the thought in a paragraph before attempting to read it aloud.

Sometimes a study period is given in which the children read silently, jotting unfamiliar words on a slip of paper. These words are then put upon the blackboard and studied. Again, a moment is given during the recitation period for the child to look through the next paragraph and get the thought before reading aloud. In the case of a paragraph which especially demands expression as, for instance, this from the story of *The Little Match Seller:* "Now her little hands were almost frozen with the cold. Ah! perhaps a burning match might do some good, if she could only draw it from the box and strike it against the wall. It might warm her fingers. She drew one out. Scratch! How it spluttered as it burst into flame!" a few leading questions are asked before the paragraph is read aloud. "How cold were her hands? What sudden hope entered her mind? Show in your reading the sound of the match as she struck it."

Many stories are dramatized and then reread with a great gain in expression. Our singing lessons help, too, for through music the children are taught to bring out the feeling of such words as *cold*, *frozen*, *bright*, *airy*, *long*, *far*, *poor*, and they unconsciously put the same feeling into these words when they come upon them in their reading.

During the year the children become acquainted with many stories and poems, some of which are studied and memorized, such as *The Wind*, Stevenson; *The Clouds*, Sherman; *Frogs at School*, G. Cowper; *The Duel*, Field; *The Day*, Dickinson. Others are merely read to the children. Teachers are sometimes inclined to underestimate a child's ability to grasp the main thought and the beauty of a selection. Children listen with great interest to and apparently appreciate the beauty of such poems as *Snow Bound*, Whittier; *Robert of Lincoln*, Bryant; *The Night Wind*, Field. Some selections they like for the music there is in them, as Tennyson's *Song of the Brook* and Longfellow's *Hiawatha*.

Our aims and methods of teaching literature are so similar to those of the first grade described previously that a description here would be superfluous. The task of memorizing has become easier as the children are now able to read. Usually a printed copy is given to each child, and after the entire poem has been read by the teacher, each verse in succession is considered as to its thought, beauty, and rhythm. When the thought is clearly understood so that a child can read intelligently, one and then another is allowed to read the first stanza. In this way the lines soon become so familiar that their memorizing requires little effort. Among the stories that are told to the children are those of David, Abraham, and Joseph from the Bible, *Robinson Crusoe*, and *Story of the Flax*, *The Fir Tree*, and the *Emperor's New Clothes*, by Anderson. A large part of *Robinson Crusoe* is read to the children from the original because of its literary value. Opportunity is given for discussion, and many ways out of Crusoe's difficulties are suggested by the children. We often dramatize some of the scenes between Crusoe and Friday and give the children free use of the sand-table that they may construct his island home.

Reading to the class is an excellent practice, as we can rely upon a child's habit of imitation to produce the desired result in his reading. Through the teacher we can give the child not only an example of good oral reading, but can fill his mind with many of the beautiful ideas of literature long before he can get them for himself.

Our aim during this year is to give a child sufficient practice to enable him to read with comparative ease and with pleasure, while at the same time we aim, by careful selection of material, to lay the foundation for a taste for good literature.

The following is the list of poems from which we make our selections both for reading and for memorizing:

The Wind	Stevenson
Brook in Winter	Lowell
Night Wind	Field
The Day	Dickinson
The Grass	"
Summer Shower	"
Sweet Peas	Keats
Snowflakes	M. M. Dodge
March	"
March	Celia Thaxter
May	"
Sir Robin	Lucy Larcom
Dandelion	J. Tabb
Now the Noisy Winds Are Still	M. M. Dodge

Kriss Kringle	Frank D. Sherman
Barefoot Boy	Whittier
Snow Bound	Whittier
Arrow and the Song	Longfellow
Visit from St. Nicholas	C. C. Moore
Land of Nod	Stevenson
Dandelion	Nellie Barabrant
The Snow Bird	Sherman
Wizard Frost	Sherman
The Clouds	Sherman
September	H. H.
Good-Night and Good-Morning	Lord Houghton
Evening at the Farm	Trowbridge
The Cloud (1st stanza)	Shelley
Before the Rain	T. B. Aldrich
The Potato	Thomas Moore
March	Wordsworth
When Icicles Hang by the Wall	Shakespeare
Snowflakes (1st stanza.)	Longfellow
The Pied Piper of Hamelin	Browning
Good-morrow, Little Rosebush	J. Stacy
Frogs at School	G. Cowper
Dandelions	H. G. Cone
The Duel	Field
Robert of Lincoln	Bryant
Song of the Brook	Tennyson
Hiawatha	Longfellow

K. W.

LANGUAGE

Charles Lamb believed that it was well to turn a child loose in the rich fields of literature and let him browse where he pleased. He is indeed a fortunate child who has a chance to become acquainted with books in the library of his own home, such books as *Water Babies*, Lamb's *Tales from Shakespeare*, *The Jungle Books*, with many of the simpler poems children love because they are so rich in fancy, so vital, so genuine, or so heroic. Unconsciously the child absorbs many new ideas, and adds to his rather limited vocabulary new words and phrases as he reads. He was charmed with the rhythm of verse in his baby days and now at eight years he is ready to feel the beauty of an exquisite lyric phrase as keenly as does many an older person. In order to further encourage and foster literary taste, stories that are too difficult for the children to read themselves are read or told to them by the teacher, and poems are memorized and sometimes dramatized.

Children speak more than they write, and for this reason special attention is given to oral expression. Once a week the children are asked to be ready to tell a "made-up" story, relate some experience, or recite some poem or nonsense rhyme. This exercise aids them in acquiring facility and fluency of expression. Oral expression is also made a prominent part of the observation lessons and of the drawing lessons. After an observation lesson in nature study, the unusual words that the subject may have called up are written upon the black-board and the child is required to define and use these words in new sentences. The unusual words met with in studying a poem are explained after the poem has been read to the class unless it is found that the children are able to grasp the meaning of the new words from the context. Volunteers are then asked to read one passage or stanza that appeals especially to them, and to tell why they like it. They often begin by choosing lines that jingle, but very soon the class learns to look for those that are musical, that make a picture, or that are full of color. A class that recently read Emily Dickinson's *A Day* found great delight in such lines as:

"I 'll tell you how the sun rose,
A ribbon at a time,
The steeples swam in amethyst,
The news like squirrels ran,
The hills untied their bonnets,
There seemed a purple stile
Which little yellow boys and girls
Were climbing all the while."

In fact, the children were so charmed by this and by other poems that they wished to try their hand at making original poems. One very small boy produced:

COLD FEBRUARY

"The snow is cold,
And I am hot,
I love the winter time a lot."

Another was more expansive. He wrote:

"The ships were in the harbor,
It was May, it was May.
Not a breath of wind was stirring
As they lay, as they lay."

Various exercises are planned with the double purpose of giving the child a chance to exercise his powers of imagination and of encouraging spontaneity of expression. One of the favorite exercises of this character is as follows:

Several words are written on the board such as *wind*, *kite*, *wild*, *gloomy*, *forest*, *gentle*, *March*. Each child chooses a word or words and tells what picture is brought to his mind. When asked to give an idea of March one child said: "Oh, he is a short, stout chap with brown eyes and very red cheeks, his clothes are rather old, he does n't wear any cap, but he 's awfully jolly. He likes to play jokes and I think he lives out-of-doors somewhere."

Dictation is given three times a week for a period of twenty minutes the first half year, the last half year twice a week, the other periods being devoted to oral expression in different forms. These dictation lessons bring in the use of the capital, period, question mark, apostrophe, and of simple abbreviations. Often the topics used in dictation are taken from nature study, manual training, or reading.

SPELLING

It requires both clear vizualizing and accurate memorizing to give the child the power to spell the necessary words in his vocabulary. Words varying from six to ten per day in number are written on the blackboard, sounded, used in sentences, copied carefully and studied at home. The following day they are written from dictation in the spelling-books, either individually or in sentences. Copying poems or short stories that are worth remembering is one way by which good habits in the use of language may be impressed on the child. By these means he has gained in the power to make himself understood as well as to understand others.

E. B.

PENMANSHIP

GRADES II. AND III.

It is comparatively easy for the child to form a mental picture of the correct forms of the individual letters of the alphabet, but it is difficult for him to reproduce these letters in an easy, fluent manner, especially when they are grouped in words. The difficulties in the way of good penmanship are largely physical, and result from the child's inability to control and coördinate his muscles. Improvement, therefore, is slow and is the result of much patient practice. The essential thing is that the child be stimulated to do his very best at all times, and that he never be allowed to write carelessly. The child, particularly in the primary grades, must be made to realize that in all his writing he must take the same care that he does during his penmanship lesson. If this is consistently done, it will be necessary to devote very little time to the formal teaching of penmanship.

About fifteen minutes each day are devoted to the formal teaching of penmanship in the second and third grades. The so-called "natural slant" is the standard of the school. The penmanship period is devoted to teaching a correct position at the desk, to holding the pencil or pen properly, to writing from a copy placed on the blackboard, to drill in writing individual letters or groups of letters, or to free arm movement in swinging the pencil for ovals to gain freedom and speed.

Considerable attention is given to a correct sitting position while writing—both feet resting squarely on the floor, back straight, paper placed directly in front, left hand keeping the paper steady. An easy, natural way of holding the pencil is emphasized. If the child grasps the pencil too tightly, as is generally the case, he is urged not to "choke" it. While a reasonably correct position is important both from a hygienic point of view and as a means to further progress, much valuable time may be wasted in the effort to secure a uniform standard. We must remember that children are unlike physically as well as mentally, so within certain well defined limits each child should be allowed to work out for himself a position of body and a way of holding his pencil that is easy and natural. Wide variations from a reasonable standard, however, should be checked, and in such matters the teacher should use her best judgment.

It is very important that the child form not only a correct standard of his own, but also the habit of criticising his writing with reference to that standard. In bringing this about it has been found helpful to have individuals or small groups of pupils write on the blackboard while the rest of the class act as critics. Considerable attention, too, should be given by the teacher to individual suggestion and help while the pupils are writing from a copy. The wise teacher will not be too critical, however, but will give all the encouragement possible. Young children may easily be made too conscious of their short-comings. The copy used is generally a line or stanza from some poem that the class is studying.

Pen and ink are used for the first time in the third grade. The use of the pen is in a way an incentive to effort, but the stiff steel pen is an awkward and unmanageable implement after the pencil, and though children enjoy the distinction of using it, they find the results discouraging. Here again, however, patience and much practice will soon smooth away the difficulties.

ARITHMETIC

The arithmetic of the second grade is related, as far as possible, to the child's needs and immediate interests. The work in manual training and nature-study, as well as the many incidents of his daily life, requires some knowledge of measurements and comparisons. While much of the so-called drill work is left for the third and higher grades, where a child's mind is better adapted to such work, a small amount, made interesting through games and various devices, is given the second grade. The following outline shows merely the subject-matter with no reference to the order of presentation, for we follow, in a reasonable degree, a spiral method. Constant repetition is perhaps more necessary in arithmetic than in any other study, and in this subject it is absolutely essential with little children. One week, therefore, spent on liquid measure does not mean that the subject is ended for the year. It is presented again a few weeks later, perhaps three or four times during the year, each time in a new way, if possible, and with more difficult problems.

COUNTING.—By 1's, 5's, and 10's to 100; 3's to 30; 4's to 40; within the space 1 to 20 by other numbers as used in the addition table.

WRITING OF NUMBERS.—Place value of units, tens, and hundreds, numbers written to 1000.

MEASUREMENTS.—Inch, foot, yard; dollar, half-dollar, quarter-dollar; pint, quart, gallon; second, minute, hour, day, week, month, explained; reading time by the clock; writing the date, *e. g.*, Friday, December 7, 1906.

ADDITION.—The tables through 9's.

SUBTRACTION.—Inverse cases of addition.

WRITTEN WORK.—Numbers of three orders in column addition, the sum of no column to exceed 20. Subtraction without borrowing. All written work limited as to time to secure rapidity.

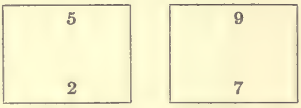
FRACTIONS.—Halves, fourths, and thirds of single objects and groups of objects.

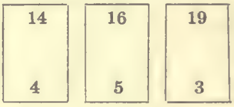
MULTIPLICATION.—The two, three, four, and five tables.

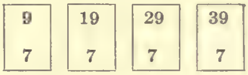
SYMBOLS. +, −, ×, ÷, =.

Problems.—Counting is used to pave the way for the work in addition and multiplication. Objects are used at first,—books, desks, chairs, pencils, blocks, sticks, dots, and circles. After counting a few times, the children like to close their eyes and count, and a day or two later have a race to see who can count fastest. They soon begin to use this knowledge in other ways, for it takes only a short time to discover that the one who counts his seeds, beans, corn, or nails, by twos or threes is ready for work first.

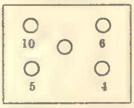
Each new fact in addition is taught by the use of objects or by analogy. A few of the devices used to fix this knowledge are as follows:

Large cards 

are shown for an instant, the children stating the sum or difference. Later in the year another series is shown: 

and still later this series: 

One of the best games which we use is suggested in Smith's *Primary Arithmetic*. It is made by cutting holes in a cardboard



box numbering each hole. Two children are selected to drop marbles into the holes from the height of a table, and one to announce the points made. The rest of the children keep the score, and tell the result in this way: "Helen had 16 points and Charles 7; so Helen won by 9 points." This game keeps every child at work and encourages rapidity and accuracy, as those who are ready first with the correct result are allowed to be the next players. The game of dominoes is another favorite, each child keeping his own score. Frequently the teacher gives a problem, ½ of 8 and ½ of 10 equal what number? Each child writes his result on a slip of paper, and several more problems are given. The correct list is then read by the teacher.

Subtraction is taught through addition or by the "making change" method. The child sees $\begin{array}{r}8\\-3\\\hline\end{array}$ and thinks immediately of the number which with 3 makes 8. This number (5) he speaks of as the difference between 3 and 8. He can now tell the difference between his age and the age of his brother or friend. The old-fashioned game of "hull gull" is introduced. The children play in couples. Each child counts out 20 beans, or only 12 or 15, if he is not familiar with the combinations to 20. A takes a few beans in his closed hand and says to B, "Hull gull." B says "Hand full." A "Parcel how many?" B guesses 5. A counts the beans in his hand and finds he has 10. His opponent gives him the difference between 5 and 10. The one who has the greatest number of beans when the time is up wins.

The knowledge of all measures comes through the actual handling and working with them in the classroom. Each child has a foot rule which he uses constantly in all kinds of constructive work. A yard measure is at hand and is used in measuring the warp thread for his loom, the string for trellises, the dimensions of a garden, etc. He learns to know a dollar, half-dollar, and quarter and is sent to the bookstore to make his own purchases of books, pencils, and all materials. The simple cooking in connection with his primitive life work gives him practice in the measuring of pints and quarts. He is taught to tell time by the clock, and is held responsible for being ready for recess and the gymnasium without a reminder.

Early in the year the children receive the idea of tens and hundreds from the use of sticks. Each child makes his own bundles of tens and uses them with the single sticks until thoroughly acquainted with the numbers of two orders. To teach the connection between a certain number and the figures which stand for it the teacher writes in figures on the blackboard the number of sticks which the children show. If twenty-one, a child will say at once that the two stands for the two bundles of tens, and the one for the single stick. Then the teacher shows the sticks and the children write the number shown. The placing of numbers for column addition comes very easily after this work, for the child quickly sees that a bundle of ten sticks and two single sticks cannot be added in the same column. Much practice in this simple addition is given before the idea of carrying is introduced. This is taught in a similar way. The children are asked to add eight and twenty-four sticks, and to tell how they found the result. Almost invariably some child will say that he has two tens and twelve ones, which is the same as three tens and two ones, or thirty-two sticks. After several problems of this kind, figures are introduced.

The ideas of halves, fourths, and thirds are presented to the children in various ways during the year. By way of illustration, the children fold and cut circles, squares, and oblongs, and arrange and mount them on cards to show the relation of the parts. The making of envelopes and boxes for seeds gives practice in measuring ½ and ¼ of an inch. The warp thread for our looms is 5½ yards long and the heddle string 1½ feet, thus requiring the knowledge of the parts of a yard and of a foot. In teaching ½ and ¼ of 100, preceding the parts of a dollar, each child has ten bundles of 10 sticks each and fastens them together to show 100, and then separates them into groups, showing ½ and ¼ of 100.

The beginning of multiplication follows naturally the work in addition, and the child soon discovers that the result of five 3's can be found more quickly by saying 5 times 3 than by adding a column of 3's, or than by counting by 3 until the result is reached. The meaning of the sign × is explained and the children are taught to express their work in two forms $3 \times 3 = 9$ or $\begin{array}{r} 3 \\ \times 3 \\ \hline 9 \end{array}$. While work on the multiplication tables is begun in the second grade, more emphasis is placed upon it in the third, and a description of that work will be found in the third grade article.

Many of the problems are related to the nature-study and manual training, and thus become real problems which the child needs to solve. As a usual thing only one operation is involved and the work is largely oral. A few typical problems are as follows:

1. If Helen plants 4 seeds in each flower-pot and there are 4 pots, how many seeds does she need?

2. This piece of wood is 18 in. long. You need a piece 14 in. long. How much must be sawed off?

3. If you use 4 pieces of raffia in each strand of your braid, how many will you use in all?

4. Herbert brought 14 marbles which is twice as many as we need for our game. How many shall we give back to him?

5. If your arithmetic costs 28 cents and your reading book 30 cents, what will be the cost of both?

6. If you give the conductor 25 cents with which to pay your fare to school, how much change will he give you?

During the second half of the year the children are taught to express in figures the operations involved in solving the problems:

1. 4×4 seeds $= 16$ seeds.

2. $$\begin{array}{r} 18 \text{ in.} \\ -\ 14 \\ \hline 4 \text{ in.} \end{array}$$

3. $$\begin{array}{l} \quad 4 \text{ pieces of raffia} \\ \times 3 \\ \hline 12 \text{ pieces of raffia} \end{array}$$

4. $\frac{1}{2}$ of 14 marbles $= 7$ marbles.

5. $$\begin{array}{r} 28 \text{ cts.} \\ +\ 30 \text{ cts.} \\ \hline 58 \text{ cts.} \end{array}$$

6. $$\begin{array}{r} 25 \text{ cts.} \\ -\ 5 \text{ cts.} \\ \hline 20 \text{ cts.} \end{array}$$

Toward the end of the year Smith's *Primary Arithmetic* is introduced. The work given in the first two chapters is merely a review for the children, but the fact that the book is now the teacher, that the examples and problems are presented in a new way, and that the children are required to interpret the thought from the printed page without the assistance of the teacher's voice, gives an opportunity for growth in independence.

K. W.

PHYSICAL EDUCATION

Each pupil is examined carefully by a physician connected with the Department of Physical Education. Tests of sight, hearing, nervous control, and the muscular system are made, and the condition of the throat and nasal passages, of the heart and lungs, and of the spine and feet, is determined. A report of this examination is sent to the parents and to the classroom teacher. The latter finds the information very valuable, for it enables her to so arrange her daily program that the physical side of the work may receive prominence. This information leads the teacher to be just in her requirements, careful in the selection of seats for those who need consideration in the matter of sight and hearing, and judicious in her general treatment of the children. Where simple corrective exercises are needed, she may plan to present them in the room. When more serious defects exist, scientific treatment is given by a specialist in corrective gymnastics.

Because little children become easily fatigued, frequent periods for relaxation and free play are provided in the daily program for the classroom. When one set of muscles has been in use for a time, exercises demanding the use of another set are given. Furthermore, much of the regular school work tends to develop and control the larger muscles; for example, planing, sawing, and hammering in manual training, dramatizing in reading, singing, and large free movements in art work.

Each class spends twenty minutes every day in the gymnasium under the direction of a special teacher. The general nature of this work is indicated by the following outline:

Marching.
  Alternating right and left.
  Marching in twos and fours.
  Diagonally across the room—crossing in the center.
  Forward and backward in floor formation.
  In different positions:
    On toes.
    On heels.

- Raising knees.
- Raising heels.
- With knees bent.

Skipping.

- Forward.
- Side-skip.
- Maize.

Running.

- In place.
- Forward.
- Maize.

Dancing.

Simple steps:

- Side step.
- Touch step.
- Step and hop.
- Heel and toe.
- Galop step.

Combinations:

- Four slides with right foot, four with left, eight walking steps around partner.
- Heel and toe step, first with right foot, then with left, followed by four slides with right foot forward, four with left.
- Galop step combined with hopping step to make a simple circle dance.

Floor Work.

Definite.

- Response to command:
    - Attention.
    - Hands on hips.
    - Feet close.
    - Feet open.
    - Feet sideways.
    - One step in any direction.

Indefinite.

- General classification:
    1. Exercises using chiefly arms and legs.

  - 2. Trunk movements.
  - 3. Jumps.

1. Arm and leg movements.
   - Clapping hands overhead with heel raising.
   - Arm raising sideways with heel raising.
   - Windmill.
     - Arm circumduction in time to music (fast or slow).
   - See-saw.
   - In rows of two—joining hands, each row alternate in knee bending.
2. Trunk movements.
   - From standing position.
     - Clapping hands overhead and behind both knees.
     - Alternate knee upward bending.
     - "Frog" position (hands on floor—arms between knees).

   - From stride position:
     - Chopping movement.
     - Rowing.
     - Clapping hands overhead and behind alternate knee.
     - With hands on hips, forward bending, touch floor, and return.
     - Same, bending sideways, one hand touches floor, one on hips.
     - Arm extension alternating with forward bending.
     - With arms overhead, alternate sideways (trees in wind).
3. Jumps:
   - Jumping, separating feet sideways.
   - Jumping, up and down on both feet.
   - Running in place.

Apparatus Work.

Hand apparatus:

  Musical dumb-bells.

    - All of the indefinite work previously given.
  - Balls:

Bouncing	from	right	hand	Catching in both.
"	"	left	"	
Tossing	"	right	"	
"	"	left	"	

    - Slow march, bouncing with each step.
- Heavy apparatus.
  - Jump standards:
    - Plain running jump, without regard to form in landing.
  - Stall-bars.
    - Hanging:
      - Raising heels.
      - Separating feet sideways.
      - "About face" hanging.
      - Separating feet wideways.
  - Horizontal ladder.
    - Hand traveling sideways.
    - Traveling forward on the rungs (without regard to form).
  - Ropes:
    - Swinging.
    - Climbing.
  - Boom.
    - Side traveling (without regard to form).
  - Giant stride.
    - Galop step sideways.
  - Games:
    - Clap.
    - Beater goes Round.
    - Hare and Hound.
    - Games with beanbags:
      - Passing down four lines.
      - Passing around circle, six bags going at same time.
      - Throwing back and forth across two lines, four lines racing.
      - Two circles, each child throwing bag into

basket in center; side wins that gets most in basket.

Games with basketball:

- Two circles, one child in center of each, tosses to each in turn; side through first wins.
- Throwing back and forth down each two lines, four lines racing.
- Circle, one child in center tries to roll ball between feet of those on outside; children on circle try to keep ball away from the center.
- Circle, one child in the center tries to keep out of the way of the ball.

Follow the Leader.

Crossing the Brook.

- Stepping from mat to mat, any child touching the floor between the mats gets his feet wet and must go home.

H. N.

MUSIC

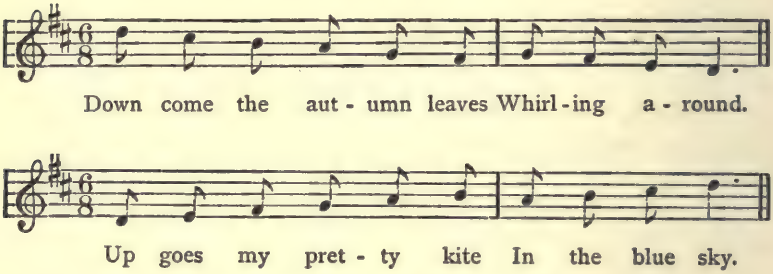
"In the pleasant August night,
When the stars are shining bright,
While the evening dews are falling,
Hark, a little voice is calling,
'Katy-did, Katy-did,
Katy-did, Katy-did.'"

The "Katy-did" song to Mrs. Knowlton's tune illustrates the kind of subjects selected for the fall work in music. Its clever refrain stimulates the imagination of the little singers by calling up country associations not yet forgotten in the excitement of the return to school life. In the same way *Falling Leaves*, Neidlinger; *Nature's Good-By*, Hill; *Harvest Song*, Smith, carry on the fall and Thanksgiving thought. A little later, *Jack Frost*, Neidlinger; *Snowflake*, Gaynor; *Christmas at the Door*, Smith; *Away in a Manger*, Hofer; *Christmas Carols*, Gaynor; and *January*, Knowlton, utilize the Christmas and winter sentiment for much of the song material.

With the approach of Washington's and Lincoln's birthdays the patriotic songs are made prominent. *For Peace and for Plenty*, Knowlton, proves a great favorite as well as the *Flag Song*, Gaynor, while with the first promise of spring, *Pussy Willow*, Gaynor, and *What Robin Told*, and *Dandelion*, Knowlton, bring the spring anticipations into the work. Later the *Caterpillar*, Neidlinger, and the *Song of the Shearers*, Gaynor, naturally follow.

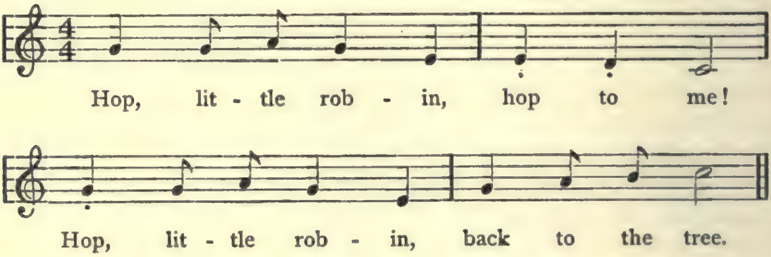
But beside the seasonal idea a second fruitful theme for song work is suggested by the study of primitive industries in which the children of this year are interested. This material comes almost entirely from old folk songs and games such as the Swedish weaving game or dance, and the spinning and weaving songs with imitative activities like passing the shuttle or turning the wheel, and the acting and dancing prove a great help in the rhythmic work. From the shepherd's life come many beautiful pastoral songs, as *Hare and Hounds*, *Run*, *Sheep*, *Run*, and the more modern *Song of the Wool*, Miss Hill, and *Spin*, *Lassie*, *Spin*, Reinicke.

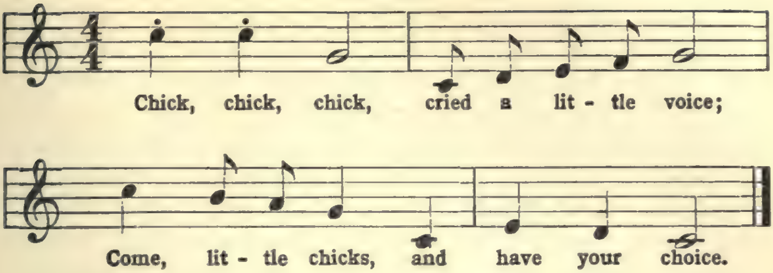
In addition to songs with the acting and primitive dancing that accompany some of them, the children carry on a second kind of work, where the song thought is reduced to its simplest form. This work taxes not so much the singing ability of the child as his power to think and to analyze. Such little scale songs as *Down Come the Autumn Leaves Whirling Around* and its complement *Up Goes My Pretty Kite in the Blue Sky* suggest that the tune must have some relation to the words.


Down come the aut - umn leaves Whirl - ing a - round.
Up goes my pret - ty kite In the blue sky.

In tracing this general thought the children begin to observe what it is that gives the characteristic expression to the tune, whether it is the way in which the accent falls, or the grouping, or the length of the notes, or whether it is that some are high and others are low. The pupils first express their observations by actions, then later, picture the movement on the blackboard, so as to show to the eye the correctness of their observations.

Parallel with the imitative work of the song, and the analysis work of the song-sentence, a third phase of musical training is carried on. This is practice in making tunes, first of appropriate words for a song and later of tunes that express the sentiment or action of the words.


Hop, lit - tle rob - in, hop to me!
Hop, lit - tle rob - in, back to the tree.


Chick, chick, chick, cried a lit - tle voice;
Come, lit - tle chicks, and have your choice.

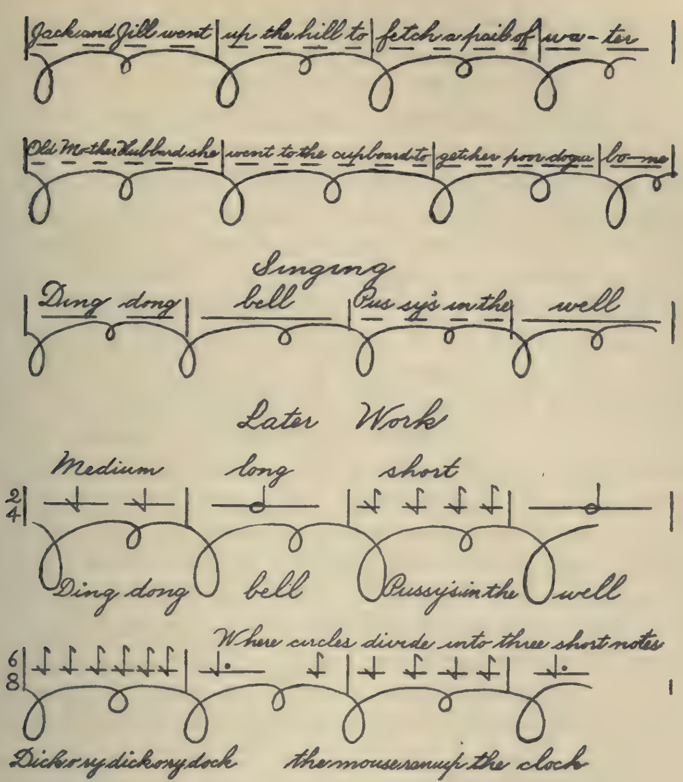
Tune and words made by children.

Finally toward the latter part of the year this picture notation of their songs will be replaced by the first steps in regular notation.

Thus there are three distinct lines of work: first the singing of songs a part of every lesson though emphasized more in some than in others; second the training in musical observation with special reference to the character of the individual tones in the melodies, emphasized at least in one lesson a week; and third the development of musical feeling through attempts at song making, coming at favorable opportunities when the class is ready for it.

We will attempt to show briefly how this work is done. Take for example Neidlinger's song *Tick-Tock*. A few questions are sufficient to freshen the pupils' minds in regard to their experience with time-keepers from the large hall clock to the tiny watch. Then the song will be sung for them. They will be asked to notice whether the tune tells the same story that the words do. Though there will be volunteers at once, the song will probably need to be sung again. Almost every child in the room will then be ready. One will say that the melody "goes way up" when the big tall clock is mentioned, another that "its tick-tock goes slow," while still another will suggest that "mamma's clock ticks twice as fast, and papa's little watch ticks faster still." Then the children try to sing the song. They must show by their strong, steady tones that they are singing about the big, stately grandfather clock, by lighter, daintier ones that mamma's French clock is meant, while the tones must fairly dance with jollity with the lively pace of papa's watch. But this is not accomplished at once. To get the big sustained tone there must be good position of the body, good control of the breath, the vowel on which the tone is sung must be kept pure and steady, while the mouth and the end of the tongue must be alive and vital to articulate crisply the performance of the watch. Not only are different parts of the song compared with one another so that each part shall be rendered according to what it expresses, but previous songs are reviewed and compared. It will be observed that the song work instead of being hilarious shouting for the sake of the physical thrill connected with rhythm and making a noise, or a meaningless drawl of words, is a highly expressive exercise requiring close concentration.

Turning now to the analysis of the song sentence it will be seen that this work requires that the attention be focussed on the individual tones of a melody. It is necessary to note what relation the accented tones have to the unaccented, the short tones to the long, the direction and general distance of the high tones from the low. All this work is done with complete musical passages or phrases, some of them not longer than two or three notes, but still forming a musical movement or motif. Thus the work does not degenerate into learning the technicalities of music without being able to associate these technicalities with their proper place in living music. Take for instance the most fundamental observation with reference to music, that we can walk or make a regular movement in exact time with music, and that in such a movement a stress occurs; we try to have the pupils discover this for themselves and show by their movement that they really understand by marking time with their feet, showing by slight stress on the left foot the accented note. They afterwards show this movement by making circles with the hands, large ones for the accented pulses and small ones to show the regular divisions of the time that occur between. This work commenced in the first grade is easily done in the second and leads to the picture work where the pupils go to the board and while they sing the song themselves, or while the class sings it for them, make large and small circles that will fit the swing of the song. When this is done a vertical line is drawn before each large circle, thus dividing the space into measures containing one large and one or two small circles. This is done not only in connection with the song and the song sentence but with *Mother Goose* jingles, like "Jack and Jill" and "Old Mother


Jack and Jill went | up the hill to | fetch a pail of | wa - ter
Old Mother Hubbard she | went to the cupboard to | get her poor dog a | bo - ne
Singing
Ding dong | bell | Pussy's in the | well
Later Work
Medium long short
2/4
Ding dong bell Pussy's in the well
Where circles divide into three short notes
6/8
Dickory dickory dock the mouse ran up the clock

Hubbard." The pupils discover that to picture these songs adequately each circle seems to stand for two tones in the first, while in the second each circle stands for three, while if they sing "Ding-dong Bell, Pussy's in the Well" they have three kinds of duration. One with the circle, which they learn as the medium length, one occupying the length of two circles which at present they call a long tone, and with the words "Pussy's in the Well" they find that two tones come for each circle, called short. The pupils clap these tones while the teacher makes the circles, or half of the class makes the circles while the other half clap, then change about, until the difference between the regular metrical element in the lines and the irregular duration element of the words is clearly appreciated. Then the pupils go to the board and place dashes over the circles and between the vertical lines, showing to the eye how the various duration lengths fit the circles that picture the metre. See illustrations, page 177.

This gives a complete rhythmic picture of either a line of poetry or phrase from a song. The pupils enjoy going to the board and making pictures of tunes with which all are familiar and the class guesses what song is pictured. Sometimes each child makes a rhythm picture of a well-known couplet, thus showing individual accuracy of observation and performance. The pupils correct each other's exercises at the board. In the latter part of the year the dashes over the circles have the regular notes placed upon them, a quarter note placed over the circle that breaks into two tones, and a dotted quarter over the circles that represent such tunes as "Old Mother Hubbard" or "Dickery Dickery, Dock." The quick notes that make up the circles are represented by eighths while the long notes covering two circles are represented by half notes. When the significance of this notation is clearly appreciated the notation is used without the pictures, and the pupils discover the necessity for something at the beginning to state how many pulses are to be grouped together into a measure and whether the pulse is to be represented by a tone that breaks squarely into two like the quarter, or into three like the dotted quarter, and they learn to represent the difference by using the eighth for the latter and the quarter for the former. Thus the function of the fractional numbers at the beginning of a piece of music, as well as their necessity, is discovered. See illustrations, page 177.

The third observation in connection with tones is to discover whether they are high or low. The pupils first indicate their observations by raising and lowering their hands while singing a little phrase, or the teacher sings while the pupil tells by the movement of his hand not only the direction of the voice but approximately its distance from the last tone. When a close connection has been made between pitch movement and physical movement the same thing is expressed at the blackboard by placing dashes high or low. Thus a fairly accurate picture of the change is presented to the eye. The pupils are not only eager to put down songs and let the class guess what they have in mind, but they are quick to correct the mistakes and observations that are made.

When the feeling for pitch difference has been definitely associated with its representation on the board, lines are introduced in order to mark the differences more accurately. First a song with two consecutive tones, back and forth, is taken and it is found that if the first tone is represented by a line the tone above it can be put next to it on a space, and when a song goes up three tones another line is added. So, in the process of defining song sentences on the blackboard, a group of five lines is developed, and in the latter part of the year considerable skill is shown in following the teacher's pointing up and down on this group of lines and spaces. The children also learn that when *doh* is on a line *me* and *soh* come on lines; and when *doh* is on a space *me* and *soh* come on spaces above it. Thus the first step is made towards grouping in thirds.

In the third kind of work already alluded to, that of song making, some subject connected either with seasonal occupation or the pets that interest the class is suggested to the pupils. Some characteristics of these subjects are dwelt upon, such as the howling of the wind or the movement of the water or some mood, as gay or regretful. After the imagination has been stimulated a couplet is attempted, something that will put into rhythmical shape what has been talked about. There is never any lack of suggestion along this line, and the effectiveness of previous rhythmical observation is seen by the way the children discover the weak spots in each other's productions or give at once a complete form to their thoughts. The following is a couplet offered by one of the children in a recent lesson:

> There was a little bluebird
> Sitting on a tree,
> When I saw her little ones
> She flew away from me.

The pupils and teacher join in selecting what they consider the most effective for musical setting, giving their reasons for their choice. Then probably at some other lesson the lines are taken up for musical setting. While reminiscent phrases of previous songs are likely to occur, the effort at making the melody express the thought of the words in hand makes a very stimulating exercise and brings into play the whole field of musical activity of the two previous divisions of the work.

The description of what is done and how it is done may now be supplemented by giving a few reasons as to why it is done. A close connection is made between the songs and the child's daily experience, because the pupil cannot be interested in a song whose words he only partially understands; in fact there are many such songs that it is wise for him to learn, like patriotic songs, hymns, and classic songs which are constantly being sung at church and at public gatherings. It is well to learn these as gems in poetry are learned, their full significance not being felt until later, but the real reason for the selection of songs as previously outlined is that we make the work expressive, significant, when we thus relate it directly to the child's immediate interests. The music lesson, then, is not a semi-recreation period wherein the mind goes to sleep while feeling runs riot. It is rather a period where thought and feeling are combined, one whose educational value is second to none that occupies school time. Everything done—the attitude of the body, the deep breath, the good articulation, the sustained tone, the intelligent rendering of the melody—all grow from one purpose, the adequate expression of thought. The benefit of such training is not that the children learn to sing a few songs well, but that their minds are awakened to the reasonableness and common sense that underlie not only music but all artistic expression. Music is thus put in the same category as language work, nature study, and manual training.

So in the second kind of work done, that of observing the stress duration and pitch characteristics of tone. However valuable this may be as a basis for learning notation it could hardly be justified from that point of view only, for few of the thousands who spend time in learning notation in school ever practically use this knowledge. Those who do can learn it much more effectively in connection with their instruments. The reason for this careful observing, then acting and picturing what has been observed, is for the mental intelligence with reference to tone that it awakens, making the future enjoyment of artistic music more keen.

The hearing of many persons, perhaps of the larger portion, with reference to modern music is like the sight of one who has thin cataracts over his eyes. The general distinction between light and shade, of bright spots and dark spots, is felt, but all those nice discriminations that are necessary to make a picture enjoyable are lost, not because of lack of æsthetic appreciation but from inability to appreciate the form of what is presented. The essential thing for such a person is to remove the cataract so that he can see clearly. So with the ability to enjoy modern musical works. It is essential to hear accurately enough to appreciate the form (not using the word in its technical sense) in which they are presented. This accurate observation of differences in tone does for the tonally dull child, if begun at a sufficiently early age, what the removing of a cataract does for a grown person who has partially lost his sight. The aim of this work, then, is the development of a deeper artistic appreciation.

The third phase of work, that of song making, might at first sight seem unnecessary for the average child, but it is for just such that the work proves most valuable. It is the average child that is apt to take his music simply on its physical and sensuous side, failing to make the connection with his artistic nature. Such a child in the attempt to compose words and music that are appropriate will get an insight into the real nature of song more true than he could get in any other way, even though his own work has no artistic value.

Thus the aim of the year's work is not to gain technical efficiency, intellectual knowledge, or even vocal skill, but to train the pupil's heart and mind for the most complete enjoyment of music that is possible to him. H. L.

TIME SCHEDULE

Grade II.

Number of minutes per week devoted to the various activities.

Reading and Literature	260
(The class is divided into two groups.)	
Language	60
Spelling	50
Penmanship	60
Arithmetic	130
Manual Training	105
Primitive Life. No definite assignment.	
Art	70
Nature-Study	70
Physical Education	100
Music	60
Recess	75
Opening Exercises	75

PRIMITIVE LIFE.	MANUAL TRAINING.	LITERATURE.	READING.	NATURE-STUD
Pastoral Stage: I. Domestication of Animals.		Bible stories: Joseph, David, Abraham, Ps. xx. iii. The Cow (Stevenson). Clouds (Sherman).	Llolami. Children of the Cliff. Lodrix (Wiley and Edrick).	Study of sheep, go cow.
II. Food: a. Animal: products of chase, flocks, herds.	Make wooden dashers. Make butter and cheese. Cook rice and fruits.	Stories of shepherd life in Arabia, Turkey, and Persia.	In Field and Pasture (Dutton).	
b. Vegetable: wild rice, fruits, berries.				
c. Means of securing: hunting herding.	Make slings, shepherd's staff, corrals, traps, clubs.			
d. Preparation.				
III. Shelter: a. Location, dependent upon food and water supply.	Make Asiatic tent of coarse material, rugs, poles for tent, shelters for animals, huts, wells.			
b. Kind: temporary tents, huts.				
IV. Clothing: a. Skins, leather, wool (camel and goat's hair).	Make sandals of skins or raffia. Cut wool from fleece, wash, scour, card, dye, spin and weave.			
b. Manufactured: dyeing, spinning, weaving.	Make carders. Construct loom, string. Make shuttle, heddle, beater, and warp stick.			
V. Effect upon Man: a. Nomadic life.	Dress figure in shepherd costume.			
b. Development of sustained effort.	Construct on sand-table scene from pastoral life			
c. Humanizing influence.				
1. Sympathetic relations with animals.				Dairies. Care of milk
2. Veneration aroused by patriarchal government.				
d. Development of songs and dances. 1. Religious. 2. Occupational.				
e. Development of games in connection with pastoral life: 1. Vaulting. 2. Leaping. 3. Climbing. 4. Throwing of sling.				
5. Walking on stilts.	Make stilts, lyre, flute.			
6. Games of hare and hound. 7. hunt the gray wolf.				
f. Story-telling, tales, traditions and adventures.				
VI. Method of Warfare: spears, shields, slings, bows and arrows.	Make shields, spears, clubs.			
VII. Modes of Travel: camel, caravan, horses, mules.	Saddle bags. Dress figure in Arab costume.			
VIII. Government: patriarchal.				

ART.	ARITHMETIC.	MUSIC.	PHYSICAL EDUCATION.
ly of pictures. he Shepherdess (Le Rolle). eep (Anton Mauve). st Sheep (Schenck). Navajo, Sheep Herder, Trailing Texas Cattle (Remington). Knitting Shepherdess.	Measurements and problems in connection with constructive work.	The Shearers. The Cow. Milkmaid. Making of original songs.	
inative work. trating life studies. el— imals and pottery.			
ns for rugs and pottery coration. hand cutting.			

PRIMITIVE LIFE.	MANUAL TRAINING.	LITERATURE.	READING.	NATURE-STUDY.
Agricultural Stage:				Study of grains vegetables as foo
I. FOOD: a. Animal. b. Vegetable. c. Conditions for securing: 1. Water supply. 2. Pasturage. 3. Climate. 4. Soil.	Corn shelled, parched, ground, sifted, bolted. Idea of mealing stones. Cook corn meal. Corn cakes. Modern forms of corn. Cut, dry, and string apples.			
II. SHELTER. a. Settled habitation. b. Location, fertile valleys, plains. c. Structure: stone, brick, wood.	Construct farmhouse with brick walls and thatched roofs, barn and sheds, fences of stones and branches. Mould and dip candles.			
III. CLOTHING: wool, flax, cotton.	Compare wool fibre with cotton and flax. Spin flax. Make farmer's hat using corn husks or raffia.			Study of flax and c as compared with wool.
IV. EFFECT ON MAN: Moral { Peaceful life, social rights, and laws. Material { Foresight developed. Concentrated effort. Scientific knowledge.		The Hay Loft (Stevenson) Evening at the Farm (Trowbridge). The Emperor's New Clothes (Andersen). The Farmer and his Sons (Æsop). In the Meadow (Sherman) Spinning Wheel Song (Waller). Robinson Crusoe.		
V. INVENTION OF TOOLS.	Make primitive plow, rake sledge, hayrick, yoke for oxen, whips, ladders.			
VI. DOMESTICATED ANIMALS AS BEASTS OF BURDEN.				
VII. TRANSPORTATION: carts, litters, baskets, horses, oxen.	Cart with wheels, litter, market baskets, panniers.			
VIII. GOVERNMENT AND COMMUNITY LIFE: More settled laws. Individual ownership of property.				
X FESTIVALS: Religious, secular. Origin of games connected with labor.				

ART.	ARITHMETIC.	MUSIC.	PHYSICAL EDUCATION.
of photographs: ing Corn. ding Poultry. cing Hay into Hay Cocks. ding Hay. king Time. sentation of vegetables b means of water color, crayon, clay, scissors.		Jolly is the Miller. Feeding the Chickens (Knowlton). Mr. Duck and Mr. Turkey. Blow, Wind, Blow. Sing a Song of Harvest. (Primary and Junior songs). Swedish weaving game. Swedish linen weaving game. Oats, Peas, Beans, and Barley (Swedish).	Dramatization of stories, poems, and songs. *Games.* Hare and Hounds. Hunt the Gray Wolf Mulberry Bush.

PRIMITIVE LIFE.	MANUAL TRAINING.	LITERATURE.	READING.	NATURE-STUDY.
	Mounting fall flowers. Making seed envelopes and boxes. Making leaf books.	Story of the Flax (Andersen). Nature Myths Dog of Flanders (Ouida). A Friend of Justice (H. Van Dyke). Drop of Water (Andersen). The Fir Tree (Andersen). Hemlock Tree, 1st verse (Longfellow). Poems and stories memorized and read and used in oral reproduction.		Recognition of fall flowers. Dissemination of Insect life: grasshopper, cri beetles, katydid, locust. Study of trees: ches horse chestnut, gum, pine, bal hemlock, spruce, Observation of bran leaves, buds, bloss fruits, and effec seasonal changes.
	Making weather charts. Making sun-dial. Making shadow stick. Making kites.	Clouds (Sherman). Before the Rain (Aldrich). Cloud, 1st verse (Shelley). Wind (Stevenson). Night Wind (Field). Four Winds (Sherman). Summer Shower (Dickinson). A Day (Dickinson). Brook in Winter (Lowell). Snowflakes (M. M. Dodge). Snowflakes, 1st verse (Longfellow). Wizard Frost (Sherman).		Weather conditions. Wind, direction effect. Forms of water: clo rain, snow, frost, Points of compass. Seasonal changes: upon man, animal and plant life. Animal life: Observation of coons collected children. Sheep, goat, cow, horse, turkey, duck.
	Making labels. Making trellises.	March (C. Thaxter). March (M. M. Dodge). The Months (Sherman). The Daffodil (Thaxter). Golden Glories (Christina Rossetti). In the Garden (Dickinson). Frogs at School (G. Cooper). Verses on Birds (E. Arnold). Good Morrow, Little Rose Bush (J. Stacy). Dandelion (J. Tabb). Sir Robin (Larcom). Apple Orchard. Spring, 1st verse (Wm. Martin).		Plant life: planting observations of gro lettuce, radish, be corn, and other mon vegetables. Germination: Rec. of spring flow wild and cultiva bulbs, planting observation of grov Recognition of birds on campus and in —robin, starling, ple grackle.
	Holiday Gifts: blotters, calendars, napkin rings, picture frames, bookmarks, candy boxes.	Santa Claus and the Mouse. Night before Christmas. Gingham Dog and Calico Cat.	Stepping Stones to Literature. Graded Classics II. and III. Fairy Tales and Fables (Baldwin).	
	Shoe bags, decorated with initials.		Stories of old Greece, Firth. Child Life, III. Letters from a Cat.	
	Valentines.			

ART.	ARITHMETIC.	MUSIC.	PHYSICAL EDUCATION.
ation, using original igns on leaf books. ate seed boxes and en- vopes.	Measurements in constructive work.	The Falling Leaves (Neidlinger). Leaves Party (Gaynor).	
oor sketching. ry sketches. ing buds, twigs, leaves, al trees. ry sketches of evergreens campus. ation of kites.		August Katydid Song (Knowlton). The Wind (Stevenson). Kite Time (Knowlton). My Shadow (Gaynor). Jacky Frost (Eleanor Smith Primer).	
n and decorate calendars. ing flowers, fruit, and etables raised in window-es and greenhouse and den, using water-color crayon as mediums.			
	Problems in time relating to growth of plant from seed.	What Robin Told (Knowlton). Little Yellow Dandelion (Gaynor). Clovers (Knowlton). What Robin Sings (Eleanor Smith Primer.)	
ing spring and fall wild vers. robin. bluebird. leaves, nuts, flowers and etables in clay.	Problems in constructive work and laying out of individual flower-beds		
re study— C't you talk?			
nna le Gran Duca.	Counting by 1's, 2's, 3's 4's, 5's, and 10's. From 1–20 by other numbers.	Merry Christmas (Gaynor). December. January (Knowlton). Snow Flakes (Gaynor).	
	Place values of units, tens, hundreds, numbers written to 1,000.		
r Cards.	Dollar, half-dollar, quarter; second, minute, hour, day, week, month.		
ation of valentines.	Reading time by the clock. Addition tables through 9's. Subtraction—Inverse cases of addition. Fractions, ½, ¼, ⅓. Multiplication—2, 3, 4, 5 tables. Signs +, ×, −, =. Problems.	The Postman (Knowlton).	

Elementary School Curriculum

THIRD YEAR

READING AND LITERATURE

When children have reached the third year of school, they have overcome many of the difficulties with the mechanics of reading and are beginning to find pleasure in reading to themselves and to others. This habit of reading is encouraged by providing them with good literature which appeals to their interests and is within their comprehension. Given a good literary form, the interest to the child is of first importance. This interest is best held by the "long story," or by a series of stories in which the same characters appear, as in Abbie Farwell Brown's *In the Days of Giants*. We do not seek easy reading. A child who is plunged into an interesting tale reads on in his eagerness to find out what happens next. Correlation with other subjects in the course of study is of secondary importance. When this is carried to an extreme, it results in inferior literature.

We have been guided in our selection of material by the above considerations. *Hiawatha* appeals to the majority of the class, because it is full of the lore of the Indians, and the rhythm of the lines seems to swing them over the difficult words. Then, too, they experience here the joy which many an older person feels in discovering a familiar poem in a book, for parts of *Hiawatha* have been memorized in the first grade.

Alice in Wonderland and *Through the Looking Glass* are a delight to both teacher and pupil. A child reading *Alice* by himself sometimes finds the sheer nonsense "silly," but this is rarely true when he laughs over it in company with his mates. Even in this day of freedom in the classroom and good comradeship with the teacher, a hearty laugh is only too rare. *Alice* furnishes occasion for many, and also for spontaneous dramatizing dear to the heart of a child.

Children glory in the larger things of life, in the forces of nature, in big happenings on sea or land. Two books read in this grade feed this healthy love of adventure and lead the way to Scott and Stevenson. These books are Cook's *Story of Ulysses* and Brown's *In the Days of Giants.*

Other books which may or may not be read according to the abilities and interests of the class are Holbrook's *Nature Myths*, Morley's *Bee People*, Brown's *Book of Saints and Friendly Beasts*, Andersen's *Fairy Tales*, and Eggleston's *Stories of American Life and Adventure.*

Many poems are read and memorized, certain ones being chosen from Burt's *Poems Every Child Should Know*, while others are selected by the teacher from various sources and placed in portfolios owned by the children. Some of these poems, like *The Coast Guard*, are directly correlated with other work, but most of them are chosen only for their literary beauty and interest for the child.

Besides the books which the pupils read for themselves, they are introduced to many others by the teacher's reading, the object being not only to enlarge their field of literature, but also to lead them to read for themselves at home. They are encouraged to bring Christmas and birthday books from home, and selections from these are read, just enough to rouse the interest. As a result the books are eagerly read before school and are usually, in time, added to the home library. Some of the books used in this way are *Hans Brinker, or The Silver Skates*, Dodge; *Jungle Books*, Kipling; *The Magic Forest*, White; *Arabian Nights*, and *Out of the Northland*, Baker. The legends of the Hudson are told to them in connection with their home geography and they listen with delight to Irving's tales of Rip van Winkle and Ichabod Crane. Later in the school course, they will read these for themselves.

No time is taken from the reading in developing difficult words, in the so-called preparation for the lesson. Rarely is there a word which the child cannot get from the context, and an unfamiliar word can be pronounced for him and briefly commented upon in passing. We are finding out what happens next to our hero and the discussion of words is a waste of time. The study of words has a place, but that place is not in the literature lesson, where it is sure to detract from the interest of the story. Certain words are chosen from the reading and studied in a language lesson. They are written on the blackboard for recognition, pronounced phonetically, spelled by syllables, and used in sentences formulated by the children. In this way their vocabulary is consciously enlarged. Individual dictionaries of these words add to the interest, and the children vie with each other in their lists of words. The following are examples of the way these words have been incorporated into sentences by the children: The Palisades are *rugged cliffs* rising out of the Hudson River. We looked through *interlacing boughs* into the blue sky. Loki *chuckled* at the thought of the mischief he had done.

There is then no study of words in the reading lesson. Sometimes a preliminary talk is necessary in order that the children may feel the atmosphere of the story, but the less analysis the better. Beyond this the treatment varies with the selection. When a beautiful piece of literature is to be given to the children, like Wordsworth's *Daffodils* for instance, it seems best that the pupils should not make a blundering first rendering of it, but that it should be presented as a whole in a finished way by the teacher.

So, in almost every reading lesson, there are certain paragraphs which may well be read by her. There is little danger of their becoming mere imitators. In other selections we call to mind that reading is thought-getting, so the story is read silently by the children and reproduced in their own words. In *Alice* the fun of the conversation would be lost if transferred to the child's words, so the text is read at sight. Afterwards, the retelling takes the form of dramatic action. The "Mad Tea-Party" is a favorite subject for dramatizing. Chairs are placed at the classroom table, and the Hatter and March Hare seat themselves with the Dormouse uncomfortably asleep between them. As Alice approaches, the chorus of "No room, no room!" is met with an indignant "There 's plenty of room!" Whereupon she seats herself and the conversation proceeds. No rehearsing is necessary, for if the Hatter forgets his part there are volunteer prompters in the audience. Stage "properties" are unnecessary, for our imaginations are vivid, although it has been suggested that "just for once" we might pour water on the nose of the sleepy Dormouse to make as realistic as possible the "hot tea" of the story.

On the other hand, in Brown's *In the Days of the Giants* and Cook's *Story of Ulysses* much time may profitably be given to silent reading. As far as possible the story as a whole is presented to the children. The chopping-up into small sections to be told to classmates who already know the story would be irritating to a grown person and is surely so to a child. In order that there may be some freshness in the telling, two or three pupils are sent from the room. Their classmates read the story and are then able to tell it with enthusiasm to those who have not heard it. In the telling the child, of course, is allowed perfect freedom in the choice of words, but the frequent question "How does the author say this?" calls his attention to the better form, and he unconsciously learns to strive for this. Criticism of each other, when not carried too far, is permissable, although any criticism which makes the storyteller conscious and stilted in his use of words is pernicious. The children must feel that they are to tell what happened and an undue use of *ands*, *nows*, etc., and a foolish repetition of the thought spoils the story. In the preceding grades the children have been trained in the discussion of a story to see the more important event. This has been aided by questions and by illustrations on the blackboard. Both these devices are helpful in the third grade, but as an additional step, a simple outline may be written on the blackboard and used as a guide in the telling of the story. Later in the year the children themselves may make the outline.

Questioning is an art, and an art which should not be overworked in the reading lesson. It is easy to make commonplace a beautiful piece of prose or poetry by the quantity or quality of the questioning. If there are unfamiliar words which obscure the meaning, these are made clear, but children are impatient, and rightly so, of too long delays. It is well to make the story a part of their own experience. The story of Thor's duel is opened by a detailed account of the "wonderful race of horses pastured in the meadows of heaven." The question "Where have you seen beautiful horses?" calls forth enthusiastic accounts of the circus, the stock-farm, the horses in Central Park, and their own ponies in the country. This is not going too far afield, for they turn to the book and read with fresh enthusiasm of "Hrimfaxi who drew the chariot of Night and scattered dew from his foaming bit" and of "Glad, whose mane was yellow with gold and behind whose flying heels sped the swift chariot of Day."

As to the ethics of the story, there is always danger of moralizing. The children are very glib in formulating maxims of which they think their elders will approve, but there are innumerable incidents in the classroom and on the playground which give the watchful teacher opportunity to make tactful "application" of the stories read.

In the oral reading which follows the silent getting of thought, most children having a clear picture of what has happened will read naturally and therefore with expression. When the children read aloud, it seems natural that they should face those to whom they are reading. It has been suggested that we force them into an artificial position when we allow one child to read to his mates while they are apparently absorbed in the printed page,—that the natural thing is to have all listen with closed books. This hardly seems desirable with young children. The boy is still full of the joy of mastering the mechanics of reading, and he is surely aided in this by the careful following of the words as his classmates read. There are always certain pupils who listen with absorbed attention, regardless of the book. Such pupils are not chided for "losing the place."

The selection is often reviewed and practice given in oral reading by the direction, "Read to the class the part you like best." Frequently a child chooses a sentence or a stanza which appeals to him because of its poetic beauty, although he has not analyzed it as such. Often it is the mere bravado of words which allows him to assert his boy-nature within the walls of the classroom. This accounts for the favor shown the following paragraph, "'Do to him!' growled Geirröd fiercely, 'G-r-r! I would chew him all up! I would smash him into jelly!'" Again, they are attracted by the sentiment, as, "Ulysses stooped to stroke the head of the only friend that knew him, and the poor dog, striving to lick the hand of his master, stretched himself out and died of joy."

In this year's work, the apparent gain in reading may not be as great as in preceding years, but the pupils have definitely formed a habit of reading, so that they voluntarily read at home. They have learned that they can give pleasure by this reading aloud, and feel that they are active members of the home circle. Their tastes have been so directed that they are on the high-road toward making a conscious distinction between good and poor literature. M. I. B.

LANGUAGE

We sometimes wonder how much of the formal English taught in our early grades of school is of real value in later years. How many of our good conversationists, for instance, can trace any of their power in this line to the early work in language in our schools? How many of our best writers,—I will not say of fiction, for good story-tellers are born and not made,—how many orators, lawyers, public speakers, can trace their literary style, even their habits of using correct English, of punctuating correctly, to the language lessons which they learned in school? It would be highly interesting and valuable if we could estimate this. It would doubtless prove a shock to those of us who have been faithfully giving thirty minutes a day to formal work in language. Until recently most schools placed the emphasis upon form in both oral and written language at the expense of thought, imagination, and interest. Now it is realized that the child is probably unconsciously learning more every day about form from the books he reads, from the conversation he hears about him at home and in his play, perhaps from the street-car advertisements he reads on the way to school in the morning, than he learns in a day or a week of cut and dried language lessons in school. This does not indicate that the subject of language should be abolished from our school curriculum, but it does suggest that the most effective method of teaching it is the one which follows as closely as possible the one the child is constantly using in spite of us.

Not long ago a teacher in a primary room was struggling to have well retold one of the stories of Ulysses' wanderings. There was little incentive to the story-teller, as the other children had read the story and the teacher knew it by heart. The child had drifted into a dreamy style of narrative and was urged to put more life into the tale. He looked surprised and injured. He asked the teacher if she had read the *Iliad*. Upon being told that she had, he explained that it had been read to him at home, that he liked it better than the story that was being read in class, and that he was trying to make his story sound more like the *Iliad*. The child, in this case, had chosen a high standard for imitation.

We aim, from the earliest years of school, to give children the best in literature, both in the books they read and in the poems they memorize. We may trust to that to do the lion's share of the work in language, for intimacy with good literature develops appreciation of style, fosters imagination, and tends to easy and correct expression. This does not imply that reading, and reading alone, will accomplish the end in view. On the contrary, the models thus presented must be consciously and carefully studied, they must be copied, they must form an incentive for original work, and they must supply a basis for comparison with the child's own constructive effort.

Little time is given to the formal teaching of the use of commas, quotation marks, etc., in the third grade. It is thought that the children will in time through constant, correct association, learn to use these marks correctly. Most of the written work until the latter part of the year is imitation work, in order to avoid forming bad habits of punctuation and spelling, which invariably result from original written stories. Sometimes a short story, fable, or anecdote is written upon the board. Attention is called to any punctuation with which the children are unfamiliar, or to the spelling of a difficult word. The story is erased and the children are asked to write it. Sometimes the teacher writes upon the board a story chosen by the class. Sentences are suggested by volunteers, while the other members of the class become critics. If a sentence is too long or poorly worded, it is rejected. Again a poem is selected which the children have previously read in the literature class. A poem is usually better for this purpose than a prose selection, for the reason that the child grasps the thought more readily and is not confused by the long sentence. Take, for example, the first stanza of Celia Thaxter's *The Sandpiper*. The children are asked to tap lightly on their desks, indicating the rhythm. They are thus enabled to see what constitutes a line, and will not in written reproduction use too many words. They are asked to glance at the first line. They then close their books and one is chosen to write the line on the blackboard. The child selected is one of whom the teacher feels comparatively sure, in order that those who are watching so critically and comparing this work with the correct form may see no error. The instant a mistake occurs it is corrected by some volunteer. A child is asked not to attempt to spell a word unless he is sure of it. The other lines of the stanzas are reproduced in the same way. Occasionally a rule creeps in. A child starts to write his line of poetry with a small letter. Some one is asked to make up a rule which can always be used in such a case. The rule, to be understood by the one for whom it is coined, must be clear and concise.

Exercises involving the changing of sentences so that the same thought is expressed in different ways, and those requiring practice in changing statements into questions and vice-versa, help the child to gain facility in the use of language and give an opportunity for drill in punctuation. Later in the year, when the children write short letters to some absent friend, a letter form is placed upon the board for a copy. Attention is called to the position of the opening and closing, and the reason for the accepted forms is explained. Then the children copy the letter carefully. This model they keep before them in their later work until the form becomes familiar and they can give more undivided attention to the contents of the letter.

The dramatization of stories tends to strengthen both the oral and written language work. A section of the class is frequently chosen to act some story while the rest of the children try to recognize it. Then the story is written. There is great value too in letting the oral expression precede the written.

Our school paper is a great inspiration even in our primary grades. Toward the end of the third year short stories, original poems, and puzzles are given to the editors. The following were printed this year:

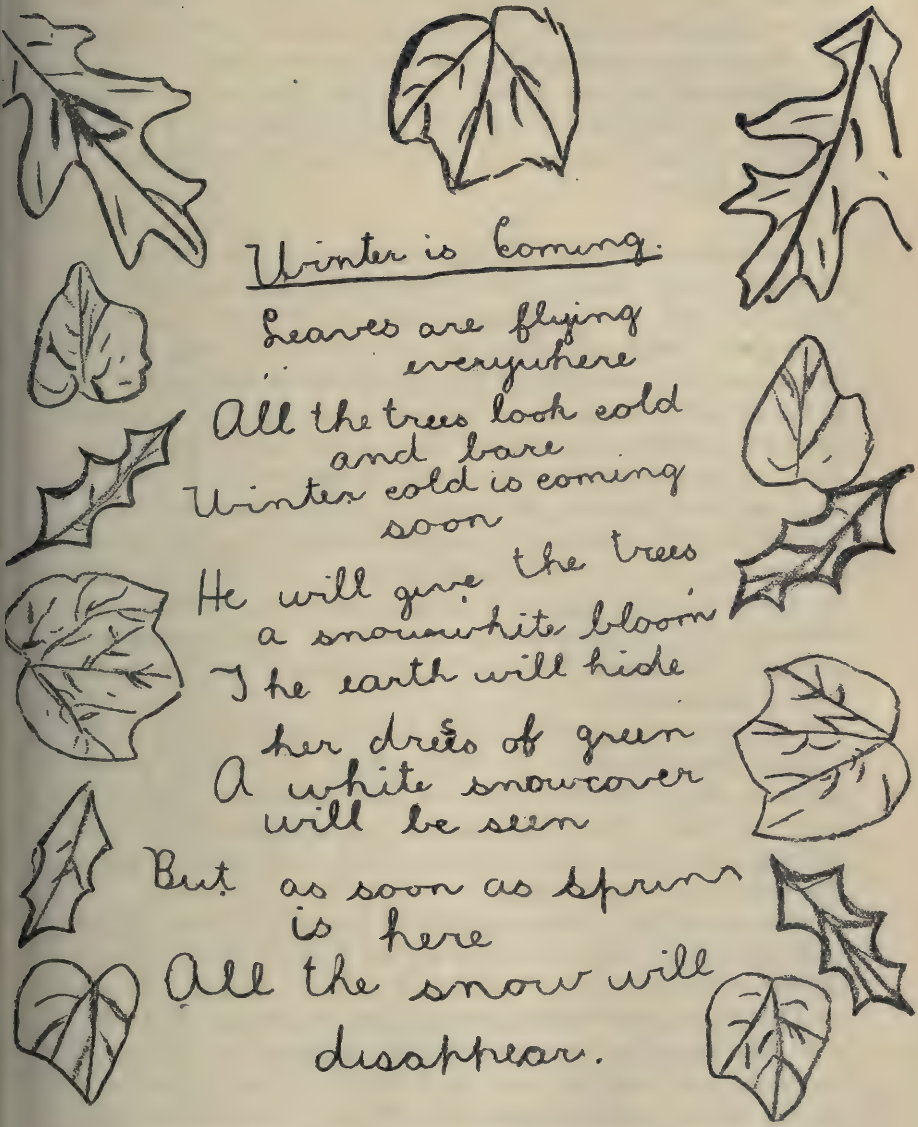
Wilhelmina

My very best doll has lost her wig, so I cannot tell you about her this time, as she is not presentable.

But I am going to tell you about my little Dutch doll.

One day when my grandma was in Amsterdam she saw a doll dressed as the orphans are in that city, so brought it home to me.

The dress is black and red; she has a white 'kerchief and a



Winter is Coming.

Leaves are flying
everywhere
All the trees look cold
and bare
Winter cold is coming
soon
He will give the trees
a snowwhite bloom
The earth will hide
her dress of green
A white snowcover
will be seen
But as soon as Spring
is here
All the snow will
disappear.

Original poem

little black apron, a string of red beads around her neck, and a lace cap pinned with two little gold pins. She has brown eyes and all together is a jolly-looking little orphan. I have named her Wilhelmina after the queen of the Netherlands.

Wilhelmina was not seasick on her trip over, and when she arrived I was very glad to see her. And although she is a little orphan she is never lonely, for I take good care of her and pretend I am her mother.

The children of Grade III are encouraged to do a great deal of original oral work. Every opportunity is given them to talk of things which greatly interest them. They are not hampered by criticism. They are not interrupted so long as they have something interesting to say and the others wish to hear it. Often we form a ring, sometimes sitting upon the floor, and one child after another talks to us. He may tell of his day at the circus, of his pet dog, or of the tricks of some of his other pets. He is not self-conscious, his face is a perfect picture of delight. He doubtless feels as great a responsibility in entertaining his listeners as does the after-dinner speaker. Another child tries to match this tale with something he has read, or heard, or dreamed. It little matters what his story is. If it is something that the child knows about, loves, and wants to tell, his mates will be interested.

Frequently a group of children is sent from the room while a short story is read to the class. When the children return some member of the class must tell them the story. Then the class is critical. The story-teller leaves out one of the most exciting parts, or he uses too many words, or he does n't make the wolf seem savage enough.

We aim to keep continually before the child the best things that have been written. This we do because the imitative nature of the child tends to make a model of whatever is put into his hands, and we are defeating our own ends if we do not give him something to stimulate his imagination, prove an incentive, and lead him into good habits of writing and into correct spelling and punctuation. We use these models first as copies and later as the means of testing original work. We are careful not to write too much, and not to write without adequate preparation, in order that we may avoid careless and incorrect habits. We give definite exercises which tend to increase the vocabulary and to give ease and variety of expression. We emphasize the value of freedom and originality in oral expression and of graphic and picturesque narrative.

M. H. L.

SPELLING

Spelling has received the attention of educational experts throughout the country. Numerous methods have been at one time heartily indorsed, and again at the introduction of a new method just as heartily condemned. The conflicting advice received by teachers runs as follows: Emphasize oral spelling; spend most of the time on written spelling; always have the words placed in sentences; give the child long lists of common words; follow closely the —— spelling-book; abolish the text-book absolutely; use phonetics in the teaching of spelling; the best results are attained through sight spelling; etc. Just as one reaches the conclusion that the judicious use of all these methods combined is wise, Dr. J. M. Rice comes forward with the announcement that "There is no direct relation between method and results."

Again we are told, by experts who have made most careful experiments along this line, that we may just as well omit the formal teaching of spelling from the curriculum. From certain statistics, they seem to be able to prove conclusively that the results from a given school, after three years of no instruction in spelling, are just as good as those in another school, under almost exactly similar conditions, where a thirty minute period has been daily given to this subject.

It is probably true, however, that much of our poor spelling is due to careless habits in the observation of words. We believe that much may be accomplished through word study, through the formation of the habit of noticing similarities and differences, and through conscious imitation of the correct form. Early this year, during the few minutes allotted to games, "Dumb Cranbo" was played. It at once became our favorite game. After playing it once or twice, it was not difficult to discover that it had distinct value as a spelling lesson. Although this is an old game, I describe it here for the sake of illustrating how it has helped our spelling. Four children are sent from the room. The class then decides upon some word suggested by any volunteer. It must be a word which has other words rhyming with it, which are spelled similarly. The first words suggested were apt to be simple, such as ill, fill, skill, or shake, make, wake. Two children who spell correctly are sent to the board to write the words suggested as the game goes on. When the four children return, they are told that the word which they are to guess "rhymes with the word written on the board, and is spelled like it." This word may be "right." The four children withdraw for consultation. In a moment they return and act the word "knight." Two of the children are prancing horses and the other two are brave knights. A tournament is about to ensue, when the children at the seats cry out, "No, it is not 'knight.'" This word is then written under "right" and the game goes on. The next word acted may be "plight" or "sight" or it is more apt to be "fight". Unless the dramatization is good, indicating that the meaning of the word is understood, the word is not recognized. When the right word, "tight," is acted there is great applause.

Frequently a word is acted which rhymes but is spelled differently, as "kite." Some child writes it upon the board to show that the spelling is quite different. Ordinarily the simple phonetic word should precede the more difficult one, but the charm of the game lies in the fact that management is handed over to the children and there is little interference on the part of the teacher. Later the children are encouraged to use words that rhyme regardless of spelling, and frequently three columns are written during the game.

steak	make	ache
break	bake	

At the close of the game the children are given strips of paper and asked to write as many of the words as they can remember. "Dumb Cranbo" lists of words are brought in before school in the morning. A word is never chosen from a list in which there is a mistake in spelling. Great care is, therefore, used in preparing the lists. Words that do not make good "Dumb Cranbo" words—such as dough, tough, through—are discarded, but not until the similarity in spelling and difference in sound have been detected. New words are constantly being added to the child's fast-growing vocabulary. Two-syllable words are introduced, such as pocket, socket, locket, or mingle, shingle, tingle. The meaning of words is brought out by the dramatization.

It is commonly thought that children do not often enough associate words with objects. To meet this difficulty a small table is arranged with ten common school objects on it, such as a pencil, a book, a piece of chalk, a tiny plant. This table is hidden in one corner of the room behind the desk. The children of one row are allowed to run behind the desk, peep at the objects for an instant, and then write the names of as many as they can remember. A correct list is then written upon the board. Often a printed list of common words is given to each child. Instead of being asked to "study the words ten minutes" the children are asked such questions as these: "Is the first word spelled as it sounds? What is the silent letter? What two letters in the next word sound like 'er' in her? In the third word what two words do you find?" etc. The class is asked to glance at the first five words for an instant. Then a child is chosen to stand before the class and spell the words as the other children pronounce them in concert. The enunciation must be very clear. The pupils, watching intently for any mistake, are unconsciously studying carefully each word as the child spells. After several have spelled orally the children close their books and write either on the board or on paper as many of the words as they remember.

Preceding a reading lesson, the children are often asked to copy all of the two-syllable words in the lesson. They are also asked to make certain words longer by adding a syllable. They select the words ending in "tion" and "sion" and group them.

Correct enunciation is of the greatest aid in teaching spelling. Many children spell words incorrectly because of shiftless habits of pronouncing them. The best means of guarding against poor spelling is to give children little opportunity to spell incorrectly. We often find children, even in very low grades, encouraged to write freely on some subject which calls for a vocabulary the spelling of which is beyond them. As a remedy for the resulting poor spelling, the papers are often corrected in red ink and handed back to be rewritten, thus calling attention to the mistakes made. Under such training, in two weeks' time the child probably stands less chance of spelling the words correctly than he did before he was asked to write originally.

As long as children are taught to read and write, they will be taught in some way to spell. It little matters what the method is, if there is thought and force back of it.

M. H. L.

ARITHMETIC

In discussing the arithmetic of the third grade we need to bear in mind what ought to be accomplished in this school year. Shall we guarantee that when a child enters the fourth grade he will have mastered the multiplication tables; that he will have acquired the power of accurately adding, subtracting, and multiplying numbers within a definite limit? This is impossible. The absolute mastery of mathematical processes depends upon years of experience and practice, and if attempted would mean a sacrifice of something more vital. On the other hand, if through the study of arithmetic we help to give a child power, the capacity to use his mind with accuracy and precision, good habits of attention and study, the ability to work with economy of time, and a fair knowledge of arithmetical combinations, we give him something distinctly worth while, even though when he enters the next grade, after our four months' vacation, he may have forgotten the result of 7 x 8. This may be our aim in other lines of work also, but there is, at this stage of education, no other subject in which habits of attention can be so definitely measured, both by the teacher and the child.

Children of eight or nine years of age come to us with a definite taste and desire for some of the more formal, abstract work of arithmetic, which is not so apparent in the earlier grades. Upon being given their choice one morning between going to the new gymnasium and remaining in the room to learn a new multiplication table, all but three out of a class of thirty chose the mental gymnastics. This is cited to show that much of the so-called "formal work," "systematic, mechanical drill," which sounds so formidable to an outsider, may bring much delight to one of our eight-year-old children, and that the mechanism of number may be secured with no sacrifice of interest.

A very definite line of work is laid out for Grade III, and certain definite results are accomplished. The details of our work are to some extent a repetition of those presented in Grade II. I will, therefore, indicate very briefly the ground covered by this grade, and then present rather informally one or two typical lessons.

The following is the outline of work:

Counting.—The counting begun in Grade II is continued through 12's as a basis for the multiplication tables.

Addition.—Written: With numbers of four orders, including dollars and cents. "Carrying" involved.

Subtraction.—This is begun in the making of change at the school store and continued in abstract examples of three and four orders. This is taught by the Austrian or addition method.

Multiplication.—The tables are completed. Written multiplication of numbers of two or three orders by numbers of one or two orders.

Division.—Oral work suggested by the work in multiplication. Written work includes division of numbers of four orders by divisors of one order, with and without remainders.

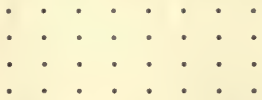
Fractions.—Halves, fourths, eighths, thirds, and sixths are given. The reduction, addition, and subtraction of fractions is oral.

Measures.—Review of those already taught, and introduction of the new table of weights and measures. Square and cubic inch, square foot, and square yard are introduced.

The Writing of Numbers.—Numbers of seven orders are read and written.

Second Lesson: the multiplication table of 8's.

On the preceding day the children worked out the table of 8's objectively, using lentils. They discovered, by grouping the lentils, that four 8's also made eight 4's.



The teacher said, "Count by 4's to 40. Count by 8's to 40. How many 4's in 40? How many 8's in 40? How many more 4's than 8's in 40?" One child said, "It takes twice as many 4's". Another said, "Of course: 4 is only half as many as 8."

They were told to add as the teacher wrote a column of eight 8's, and the result was called for. "Yesterday, when you used the lentils, and made eight rows with 8 in each row, what figure did you make?" they were asked. One child said, "A square," and several remembered that six 6's had made a square, four 4's, etc. They were then told that when a number is multiplied by itself, we square that number. They were asked to square 2, 4, 8. The teacher then said, "Count by 8's to the swinging of this pendulum. Shall I make the string long or short?" A child was chosen to interrupt, whenever he wished, by clapping his hands. The class counted to 72 before the child clapped. Nearly every child was ready with "Nine 8's are 72," or "9 x 8 equals 72." This was tried several times. Sometimes the class counted silently until some one clapped. A child was chosen to skip across the room as the class counted by 8. If any member of the class wished to stop him, he was allowed to clap and the child must tell how many times he had skipped.

Another child stood before the class and said that he was thinking that a certain number of 8's made something. One child asked him if he was thinking that seven 8's are 56; another if nine 8's are 72. Each time the child shook his head the children were all the more anxious to try, until every combination had been used except "No 8's are naught." The child who gave that combination was right, and it became his turn. The children were in this way constantly hearing the correct combinations.

As another exercise, the teacher sometimes places on the board and erases quickly $4 \times 8 = ?$ $8\,|\underline{64\quad} = ?$ $\frac{48}{8} = ?$ $\frac{1}{8}$ of $72 = ?$ The children who know the result jump to their feet, and when the correct answer is heard they sit. They are also given an opportunity of working on paper, handing in such examples as these:

$$\begin{array}{r} 827 \\ \times\ 8 \\ \hline \end{array} \qquad\qquad \begin{array}{r} 609 \\ \times\ 8 \\ \hline \end{array}$$

This written work is always done in a time limit, in order that the children may learn the importance of getting a piece of work done promptly and in the time assigned, thus avoiding habits of dawdling.

Facility in the use of numbers is attained through the exercise of applying a table already learned to the working of abstract examples. A child is greatly delighted when he is able to beat his own time record in working such examples. This lesson has been essentially a "drill" lesson.

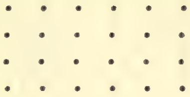
One of the interesting devices employed in this grade for the purpose of applying the multiplication tables is that of the school store. One corner of the room is given to the children for this purpose. The articles for sale are brought by the pupils, the result being a collection of toys dear to the hearts of the owners. Boys loan their favorite tops, top strings, and marbles, and girls bring their paper dolls, rolls of paper ribbon, and doll house furnishings, until no morning paper advertisement is needed to draw a crowd. This store is used sometimes for a few moments' incentive, often to make clear a problem in multiplication, division, or subtraction, and sometimes for an entire lesson. Later during the study of weights and measures a grocery store is introduced and sugar, meal, tea, and coffee are weighed and sold. In each case a storekeeper and bookkeeper are chosen by the class, the bookkeeper's business being to keep account of purchases made. The children are given toy money. During the first lessons but few purchases are made. It takes the purchaser some time to decide what four whistles cost at 8 cents each, and it takes the storekeeper even longer to find the change from half a dollar. The children, therefore, realize the necessity of being sure of their tables, and of being quick and accurate in making change. Suggestions as to the cost of various articles are made by the teacher, in order that the earlier problems may be so simple that the principle of finding the cost of more than one, when given the cost of one, is not lost. This is followed by such a lesson as this:

Strips of paper were given to each member of the class, and the children were asked to indicate the solution of the problem as each child made his purchase. Several such statements were written on the board, in order that there might be no misunderstanding; *e. g.*, 6 x 12 cts. equals 72 cts. During the thirty-minute lesson perhaps ten children made purchases and received the correct change. The first child bought a dozen pencils for 60 cts., and mentally decided that the storekeeper should count back the change into the purchaser's hand in this way: 60 cts., 70 cts., 75 cts., the change being 15 cts. As each child in the class finished he stood, in order to show that he was ready to help either the purchaser or the storekeeper. The next child bought three books at 60 cts. each. Although a review lesson on U. S. money had preceded this lesson, several children wrote 3 x 60 cts. equals 180 cts. No criticism was made of this until the close of the lesson. It would have detracted from the interest and was of minor importance compared with the principle involved in these problems. The greatest difficulty arose when a child bought $4\frac{1}{2}$ yards of ribbon at 6 cts. a yard. Mentally he probably said, "4 x 6 cts. equals 24 cts.; $\frac{1}{2}$ of 6 cts. equals 3 cts.; 24 cts. + 3 cts. equals 27 cts." On the slips of paper the children wrote $4\frac{1}{2}$ x 6 cts. equals 27 cts.

These varied problems originating with the children are enjoyed by the entire class. At the same time they accomplish the results which the school aims to secure. The children are not puzzled by the complexity of the problems, since they themselves make them. The problems naturally grade themselves to suit the ability of different children, while the principle remains always the same. Furthermore, at the close of the lesson, the teacher has proof in the papers submitted of the attention and interest of each member of the class.

It is with some trepidation that most teachers enter upon the subject of division. Most of us remember too well our own introduction to this subject, and our attacks of mental paralysis when confronted by examples in long division that would n't "come out right." Above everything else the aim is to lead the children so easily into the mysteries of the subject that there shall be no break between the simple division combinations which they learned in their study of the tables, and their first example in short division. For example, when children learned the table of 7's they found that $\frac{1}{3}$ of 21 equals 7; 28 ÷ 7 equals 4; $\frac{63}{7}$ equals 9; $\frac{7)42}{6}$.

The first formal lesson is conducted in some such way as this: each child is given a handful of lentils and is asked to select twenty-four, laying aside the rest for future use. The teacher then says, "Divide the lentils into groups with 6 in each group. How many groups have you? How many 6's have you? How many 6's were you able to make out of 24? Some one may run to the board and show what he has done." The child makes a picture like this:



"Can you show what you have done by the use of figures?" Finally some one writes, 24 divided into 6 groups equals 4. A shorter expression is called for, and these may follow: $6)\frac{24}{4}$; $\frac{24}{6}$ equals 4; $24 \div 6$ equals 4. They are then told to add three lentils to the twenty-four, and arrange again in groups with 6 in each group. The teacher says, "How many 6's have you? Find out how many 6's there are in 27." One child says, "There are too many to make four 6's, and not enough to make five 6's. May we use 3 more?" Another child says, "We have half enough to make another 6." The children are puzzled when asked to express this on the board. Attention is called to the fact that there are 3 lentils left to be divided by 6, and that it shall be expressed in this way: $6)\frac{27}{4\frac{3}{6}}$ or $4\frac{1}{2}$.

Since they have already learned that one of the common forms of division is the fraction form, they easily understand that the fraction remainder shows that the number above the line is still left to be divided by the number below the line. The children are then asked to show with their lentils how many 6's there are in 32; in 37; and then without the use of lentils to show how many 6's in 45; in 59. The children work naturally and easily with the lentils. They have used them in building their tables since the beginning of the year. They made the table of 7's for themselves without assistance, and it is interesting to note in reviewing the tables that this is the table with which they are most familiar.

On the theory that nothing is gained by the use of objects after they have served their one purpose, the second lesson is purely mechanical. The lesson opens with five minutes rapid drill in review of the table of 9's. This form is placed upon the board and results are required rapidly:

$$\left.\begin{array}{r}27\\42\\39\\85\\110\end{array}\right\}\div 9 =$$

A row of examples is placed upon the board thus:

$$9)\underline{27} \qquad \frac{72}{9}= \qquad 9)\underline{85} \qquad 9)\underline{115}$$

Each child who volunteers to work an example is first asked what the example calls for. It is absolutely necessary that a child should understand and be able to state clearly what he is called upon to do, before he begins to perform an example. We sometimes find time wasted in our higher grades, because this has not been insisted upon from the moment a child begins to perform problems. When the example $9)\underline{85}$ is worked correctly, the child is asked if he can prove that he is right. He says, "I could, if I had some lentils." Another child says, "Well, anyway, nine 9's are 81, and 4 more make 85." The teacher then shows that this is a perfect proof, and tells the class that it is the one always used in short or long division.

In the course of another lesson the first short division example is introduced, $4)\underline{264}$. The children have previously learned that 264 = $\begin{array}{r}200\\60\\\underline{4}\\264\end{array}$ therefore they know that finding the number of 4's in 26 and then in 4 will not answer. It is not "what the example calls for." It is not difficult for any child in this grade to see that the first number to be divided is 26 tens, and that the remainder is 2 tens, or 20, which leaves 24 to be divided by 4. They are asked to prove each step in this way: 4's in 26 tens equals 6, and 2 tens remainder. 6 x 4 equals 24; 24 + 2 equals 26. Then, 4's in 24 equals 6; 6 x 4 equals 24. Then some one is asked to prove that there are sixty-six 4's in 264. Of course the proof is not always called for.

Children who are taught division in this way realize when they come to long division that its processes are written while those of short division are mental; that in long division all the proofs are written out because our knowledge of the tables does not serve us in the use of such large numbers.

The teacher of mathematics is concerned chiefly with the formal exercises and results and this paper deals with that side of the work. These results, however, are not of themselves of the highest value. They must be illumined and vitalized by a constant realization of the higher aim, the creating and developing of good habits of thought and work, which shall be the foundation of all subsequent work. This aim may be attained by encouraging a love for the work through varied and interesting presentation. The hopes of success are based on the principle which President Eliot teaches—"There is not a subject in all the range of human experience that will not develop to a very high degree every mental faculty in a mind which loves it."

M. H. L.

HISTORY AND GEOGRAPHY

EARLY TRADE AND DISCOVERY

In the first and second grades, the problems of food, shelter and clothing are considered in the hunting, fishing, pastoral, and agricultural stages of the development of civilization. In the third grade, the children are introduced to some of the activities of the people who lived at the time when trade and discovery were developing. Here again they are led to participate in the problems that these people had to solve.

The children of this grade are eager for adventure by sea or land. Moreover they like to know that there is an element of truth in these adventures. Therefore, the era of early trade and discovery which follows the pastoral and agricultural stage of the second grade coincides with the sympathies and inclinations of the third-year pupil. Because at this time he begins to demand the "true story," we give this era a more definite basis by using Phœnicia, the home of the ancient traders, as a background.

The pupils of the Horace Mann School spend their summers in the country, at the mountains or the seashore. Their horizon, therefore, is not limited, and they readily appreciate the topography of a country like Phœnicia, with the forest-clad mountains in the background and the sea in front. The resources of such a country too are quite within the comprehension of the class: fish from the sea, timber from the forests, ore from the mountains, while from the shell-fish on the beach the Phœnicians made a dye of splendid color. Each child makes personal the questions, when this environment is given: "What will be your occupation? Are you in need of anything not found about you? How shall we obtain these?" In the previous grades, he has traded his bow and arrow for another weapon, and as a shepherd he has found it convenient to exchange with his brother the hunter. Third-year children are at a "collecting" age. They trade stamps in the morning before school, and can appreciate the desire of the Phœnician merchant to go in search of other commodities. The sea is the Phœnician trader's natural means of communication with the outer world. It borders his home and the mountains abound in timber for boat-building.

These talks about the early merchants involve constant comparison with present conditions. The child of eight still lives in the world of make-believe, and yet is intensely interested in the life about him. Having sailed imaginary voyages in many-oared galleys in order to make exchange of merchandise with other peoples, a visit to the docks at 130th street takes on new meaning, and he watches the unloading of brick and coal barges with intelligent interest.

The sand-table is useful at this point in its crude representation of a land similar to Phœnicia in geographical conditions. The necessity for and essentials of a good harbor are taught. Here the comparison is made with the more complex conditions in New York Harbor of to-day. The dangers of navigation in those early days are not forgotten. The lack of compasses and charts meant that the sailors must follow the coast with its dangerous rocks and shoals and anchor at night. This subject is full of interest to the New York child. He is familiar with lighthouses and life-saving stations, and the many ways in which the United States government protects the lives of its sailors. The lack of protection in those early days makes it easier to realize the wonderful facilities of the present time. The harbor is represented on the sand-table, and galleys are made of clay with bright sails of paper. Each child tells what cargo he is taking with him on his galley and what he hopes to receive in exchange.

Many questions are not solved in the classroom, but are taken home to be discussed in the home circle. For instance: Of what are anchors made? How were ships anchored long ago? What use did the ancient peoples make of tin and copper? Of what were the sails and oars made? How did the voyagers find their way to the different lands they visited, and how did they find their way home? What were the first lighthouses? Bring pictures to show various kinds of boats. These and similar questions usually call forth interesting material from home libraries.

Food must be carried on these long journeys and ways of preserving it are discussed. Sometimes this question is unanswered for several days, but no merchant must set sail until he has solved it. Robinson Crusoe has taught them the possibilities in the drying of fruit, but they are less familiar with the salting of fish. The present-day system of "cold storage" is known to most of the children.

In these voyages the names of many forms of land and water are mentioned, for the galleys sail into gulfs and bays and through straits. They cruise around peninsulas, shunning rocky capes and promontories, and sometimes land on a fertile island and camp by a fresh-water lake. These are not figures of the imagination, for an excursion is first made to the viaduct on Riverside drive and looking up the Hudson River we are able to see a peninsula, a cape, a promontory and a cliff. In Central Park we find a lake, while the trip in the Seeing New York yacht proves that we are on an island. All these forms of land and water may afterwards be shown to our satisfaction on the sand-table, or found in miniature in the unpaved street north of the school after a storm.

As the merchants develop their trade, they feel the necessity of accurate means of measurement. How is this to be done? Gradually the idea of weighing by means of balances is developed. Small balances of wood are made by the embryo merchants and a medium of exchange in the form of lead "money." (See "Manual Training.")

There are also the caravans which go overland for purposes of trade. To the child, the camel is the point of interest in these journeys. A leader of the caravan is chosen, the camels are laden, and imaginary journeys are taken and represented on the sand-table. Many questions come up in these journeys. Some of them are answered by noting conditions about us, others by an intelligent study of good pictures or a visit to the Zoölogical Gardens. For instance: "Why does the road often follow a stream? Note the N. Y. Central railroad near the school. What can be done if it becomes necessary to cross a stream?" (Later in the course these facts are recalled in connection with transportation and present-day engineering problems). "Shall we pass through the valleys or over the mountain top, and why? What route is taken by the crosstown cars on Manhattan Island? Why is the camel invaluable on the desert?" Many pictures are necessary for a clear understanding of the mountain pass and desert life, but these are obtainable if both teacher and pupils are on watch for them.

These ancient traders were discoverers as well, since their search for trade naturally led them to unknown lands. These voyages of the early merchants may well point us to the voyages of Columbus and Henry Hudson, and the pupil may be led to feel the thrill of real discovery in the story of these great men. The children are told of Columbus' conviction that the earth was round and his anxiety to reach by a short way the rich country of India for purposes of trade. It is easy for these children now to realize the significance of the word trade in this connection. The final fitting out of the ships and the dangers and discouragements of the journey show the character of Columbus in a strong light, and make him a worthy hero in the eyes of the child. Emphasis is placed on the purpose of the voyage, the aids to navigation, the dangers which beset them, and the wonderful perseverance and courage of the leader.

Another voyage of discovery which closely concerns us is that of Henry Hudson. Henry Hudson appeals to the children as a real personality. The sailing of the *Half Moon* may be made most graphic to the boys and girls living within a stone's throw of the great river which bears the name of the eminent navigator. They appreciate the tales of the wonderful beauty of the shores, and they have a kindred feeling with the superstitious sailors who see unknown terrors in the mists, and fancy they hear the shrieking of goblins in the winds that howl about the highlands.

Henry Hudson thought he was in a strait between two seas and that beyond the farther sea lay India. He soon discovered his mistake and the children are asked: "How did he know it to be a river?" This emphasizes certain geographical facts which have been suggested in the caravan journeys, namely: the fresh water of a river, the lessening in width and depth as the source is approached, thus making it easier to ford or bridge. Although Hudson was disappointed in his project of finding a short way to India, the children are asked: "How could he turn his voyage to advantage? What effect did his story have upon the shrewd Dutchmen in Holland?"

Thus we have been led from a consideration of early trade and discovery to comparatively recent voyages of discovery and the Dutch settlement on Manhattan Island. This leads us to a brief study of home history and to the beginning of the study of geography based on local environment.

M. I. B.

HOME HISTORY AND HOME GEOGRAPHY

Home History and Home Geography are closely related, as there is necessarily constant comparison between the past and the present.

The work in Home History includes the arrival of the first traders on Manhattan Island and the settlement of the Dutch town of New Amsterdam. As far as possible the biographical side is made prominent, but the little colony boasted few men of note. The growth of the town is traced and certain manners and customs of that day compared with ours. In cosmopolitan New York we cannot begin too early to foster a personal regard for the city itself. Home History, so called, with its cherishing of old associations, seems to accomplish this.

Captain Block headed one of the companies which came over to trade with the Indians. Captain Block was a sturdy Dutchman whose indomitable courage came to the front when his good ship *Tiger*, with a cargo of furs, was burned to the water's edge. Because of this disaster he and his crew were obliged to partake of the hospitality of the red man for the winter. This gives an excellent point of departure for studying the ways of the Manhattan Indian and learning how his environment has made him different from the tribes of the West.

In the spring, Captain Block and his men bravely set to work to build a ship, the first ever built on Manhattan Island, and prophetically named the *Restless*. This fact suggests the following questions: "What materials were used? Where were they obtained? What tools were available? How could the Indian, from his wider knowledge of woodcraft, help the white man?"

The traders who visited the island, living in rude huts or sharing the Indian's home, in due time returned to Holland and told wonderful tales of the rich and fertile land. In the course of time, a shipload of colonists arrived from Holland, men, women, and children who came to make this island their home. Their first act was a picturesque one, and the purchase of Manhattan Island from the Indians lends itself to dramatization and to representation in clay and water-color.

The children, in imagination, become colonists. They decide they must first build shelter for their families, then a storehouse for supplies, a fort as protection against their enemies, and later the church, schoolhouse, and tavern. The traditions of Holland are carefully preserved in constructing the canal and windmill. Bowling Green, as one of the few landmarks still remaining, becomes a center of interest. Excursions to the congested down-town districts have been found most profitable when made by the class or by the individual child accompanied by some adult member of his household. Farms appear in the outlying country and roads are laid out. The evolution of the road is of equal interest to children and adults. The question is asked: "Were there any roads before the white people came?" Broadway, the main avenue that runs by our door, formerly the Albany Post Road, illustrates the evolution of a road.

A miniature New Amsterdam is built on the sand-table, the small paper houses with gable ends being volunteer home work. The class also unite in constructing a more pretentious Dutch house with wooden sides and gable ends of brick. Bowling Green is represented by the aid of powdered green chalk. Each house has its flower garden of bright tulips, these being variously represented according to the ingenuity of the children. The Albany Post Road is shown, and the road leading to the ferry, besides pathways and lanes leading from house to house and to Bowling Green. The half-moon docks in the harbor and the Dutch ship complete the scene. The ship is often home work and is frequently out of proportion to the dock by which it is moored, but we are not critical. The presence of the ships makes us ask: "What did the ships bring to the colony? What did they carry away? How did the colonists obtain farm products?"

Communication with the neighboring colony of Brooklyn is made by means of a ferry. The pupils are familiar with the ferry of the present time, and this furnishes a striking contrast with the old method of hailing the ferryman by means of a fish-horn attached to a tree, the ferry boat itself being a rough flatboat worked by sweeps. The tavern also with its cordial smiling host, and its sanded floor swept into designs by the housewife's broom, may be compared with the Waldorf-Astoria of to-day. Other subjects of interest are the schools, the "bucket brigade," the watchmen, and the post-office department.

In these lessons, much information is given in story-form by the teacher, but many suggestive questions may be asked, drawing upon the children's daily experiences. A topical outline is placed on the board as a review of each lesson and the pupils retell the stories, thus giving the teacher opportunity to place emphasis on important points. Certain facts should be clear in the minds of the pupils, and these have been outlined as follows:

Voyage of Henry Hudson.
    Purpose.
    Result.
    His return to Holland.

Voyages of Dutch traders.
  (Captain Block as type).
    Burning of ship.
    Life with Indians.
    Building of first ship.

Dutch Settlement.
    Purchase of island.
    Building of houses, fort, storehouse,
        church, schoolhouse, tavern.
    Laying out of roads.
    Government of the colony.
        Peter Stuyvesant as governor.

Some of the facts in Home Geography have already been considered in connection with the study of early trade and discovery or of the early history of Manhattan, but in the middle of the third year, the pupils are ready to organize and extend their knowledge of their immediate environment. The plan is to lead the children to see the geography of their home locality and gradually to prepare them for their later work in geography through a review of their daily experiences. Later on, definite topical outlines are written on the board as a guide to the pupils. The subjects discussed, arranged topically, are as follows:

I. *Homes.*
- Review primitive homes.
  - General characteristics.
- Our Homes.
  - General characteristics.
    - (Compare with primitive.)
  - Division of labor.
  - Government (To be used later in showing the necessity for government in the city.)

II. *Groups of Homes.*
- Reasons for grouping.
- Small groups.
  - Country—village.
- Large groups.
  - City—N. Y. in particular.
    - Extent.
    - Number of people. (Shown by busy streets, tall buildings, crowded cars.)

III. *Streets.*
- Arrangement
- Pavement
- Slopes
- Drainage
- Care

Compare N. Y. with country or village familiar to children.

IV. *Surface of Land.*
- From school to home.
- Hills, valleys, plains, cliffs. (Observed in environment of school and home.)

V. *Drainage.*
- Stream.
  - Movement of water.
  - Obstructions to flow; falls; rapids; lakes.
  - Width—Volume.
  - Work.
  - Use.

VI. *Map Interpretation.*
- Distance.
  - Units of measure applied to desk, room, city, &c.
- Direction.
  - Points of the compass.
  - How determined.
- Scale of Map.
  - Idea developed.
    - Application made by drawing desk, room, school-garden to very simple scale.

VII. *New York a Great Commercial Centre.*
- Evidences.
  - Products received.

- Food—bread, milk, etc.
- Clothing.
- Building materials.
- Fuel.

Products transported.

- Meats—grains, etc.
    - (Children have seen vessels loaded)

Manufactured goods.

- (Study labor involved in production, transportation, etc).

VIII. *Transportation.*

1. Railroads.
    - Necessity.
    - Relation to surface.
        - (N. Y. Central).
2. Water Routes.
    - Hudson.
        - Importance.
        - Vessels—numbers, kinds.
        - Scenery.
    - Harbor (N. Y.)
        - Essentials of a good harbor.
        - Size—depth—shape.
        - Islands—peninsulas.
        - Vessels—kinds.
        - Piers.
        - Protection to shipping.
            - Lighthouses.
            - Buoys.
            - Life-saving stations.

World as a Whole.

- The Earth.
    - Form—(Use of globe).
    - Distribution of land and water.
    - Points of compass applied to globe.

Space does not permit a detailed account of all the topics just mentioned, but certain of these are described as indicative of the work in general.

Topic III, *Streets.*

In upper New York where the Horace Mann School is located, the principal streets and avenues are arranged at right angles. Every child knows this and quickly makes a comparison with the roads about his summer home. He is led to see a reason for this regularity in the city streets, economy of space being important. On the sand table he arranges a series of regular city-blocks where land values are high and the tall apartment house is a necessity. He pictures also, through the same medium, the village where he spent the summer, with its "four corners," its two-storied, roomy houses, surrounded by green lawns or broad fields.

The pupil's attention is then called to the kind of pavement about the school. He may not be familiar with the pavement used on a business street as compared with the drives in the park, but is eager to observe and find reasons for this difference. Observation after a rainstorm or when the snow is melting, shows him that the pavement slopes from the middle toward the sides in order to shed the water, and he realizes the use of the sewers and gutters.

The "white angel" of the street-cleaning department is a familiar figure, but few children have ever considered that they may be active members of this department by carefully refraining from scattering papers and luncheon at recess. As an isolated bit of preaching, this would have little effect on the children except as evidence of further "fussing" on the part of their elders, but once let them gain a personal interest in the street-cleaner and his work and they become over-strenuous in their efforts.

The policeman is the natural enemy of the city-bred boy. Be the child rich or poor, the "cop" is his legitimate target. On the other hand, hero-worship is as natural to him. A few well selected newspaper accounts of the courtesy and care of the ordinary policeman—and these accounts need not be fairy tales—will do much toward making the children feel their indebtedness to these servants of the public.

Topic VI—*Map Interpretation.*

The ability to interpret a simple map is necessary for the intelligent understanding of fourth grade work and to make it possible for us to trace our route, in school excursions or in private excursions. Throughout the year, great emphasis has been laid on the points of the compass, the directions being pointed out in the classroom until the child seems to have the feeling for the "north." The simplest drawing to scale is the school desk. Measurements are taken and a scale decided upon. The scale is noted on the map, also the points of the compass. The classroom may be drawn to scale, also a portion of the school garden, and for home work the pupil may draw his own room to scale.

In order to explain the wall map which is used in the fourth grade, some of these plans are hung in the classroom with north at the top. In this way the children are disabused of the idea that the north side of a map is higher land because of its position. They see that maps are usually hung in one position merely as a matter of convenience, and that all lettering is placed on the map so that it can be read from the bottom or south side. A map of this section of New York City is then placed on the wall, and the home, school, and church located. Various journeys are taken with the school as a starting point.

Topic VIII—*Transportation.*

The ways of getting to and from school include carriages, automobiles, on foot, trolley, subway, and elevated cars. In the parks we see people riding on horseback, and our imagination helps us to picture unsettled parts of the country in the narrow and rugged trails. Articles of food, as well as ourselves, must be carried about from one place to another, else our breakfast table would suffer. This suggests the study of transportation by water and rail. The railroad proves a fascinating theme, it being the ambition of many boys at this time to become engineers. The New York Central, just west of the school, is a familiar road and we trace its level track up the Hudson River, noting the tunnels, excavations and filled-in sections. Other roads are described where famous loops have been made, where bridges or trestles have been constructed with great skill.

Transportation by water is second only in interest. The Hudson River is at our very door. It takes only five minutes to walk to Riverside drive where one may see the procession of steam yachts, racing shells, fishing schooners, lumber barges, tug-boats, and excursion steamers, while just upstream from us is the ferry, connecting with the one trolley that climbs the steep face of the Palisades. At certain seasons the shad nets may be seen, and the brick barges tell the story of the brick-yards up the river, from which comes the larger part of the materials we can see in house-building about us.

The scenery of the Hudson is a delight to the adult. The child does not express his feeling in regard to it, but a constant observation of the many changes which take place during the year, and a judicious choice of legends surrounding it, cannot help but gradually endear it to him. This is important, as the New York child has few associations to carry with him into later life.

The Harbor is also familiar, because of the visits to the aquarium in Battery Park and trips to the Jersey shore and to Staten and Long Islands. We see pilot boats, buoys, and lighthouses, which recall the subject of protection to our shipping. The lighthouse keeper and the men of the life-saving station enter the category of the fireman, policeman, and engineer as true heroes. Some of the children know personally the men at the life-saving stations, and have had short but thrilling rides in the surf-boats. These experiences occupy several lessons, and again the sand-table is useful in making our knowledge concrete. We represent harbors, straits, islands, and peninsulas, and trace a safe course for incoming ships by means of buoys.

Definite preparation is made for fourth grade work in the use of the globe in the latter part of the year. After the idea of the world as a whole has been developed, the children are made familiar with the points of the compass on the globe, and the continents and oceans are named and located. Individual globes are used, and these are accessible before school and during free periods. The pupil becomes familiar with them by constant association.

M. I. B.

MANUAL TRAINING

In the early stages of the hunting and fishing, pastoral and agricultural periods, industrial occupations constitute a very large share of the social activities of a people, and these are of such a nature as to be readily realized and entered into by pupils of the first two grades. In the later stages of social evolution, however, occupations become more diversified and complex, and activities other than industrial become significant. This is true to a large extent of the period of early trade and discovery, which is studied in the third grade.

The development in the use of metals is an important fact of this period, but not a great deal can be done with such materials on the constructive side. We can only trace the sources from which metals are derived, and show their value for tools and weapons, as compared to wood and stone. Easily fusible metals can be melted and cast. Soft metals can be hammered and cut, but not very much beyond this can be accomplished in the class work. The possibilities lie in the direction of group experiment and class discussion, rather than along the lines of constructive work.

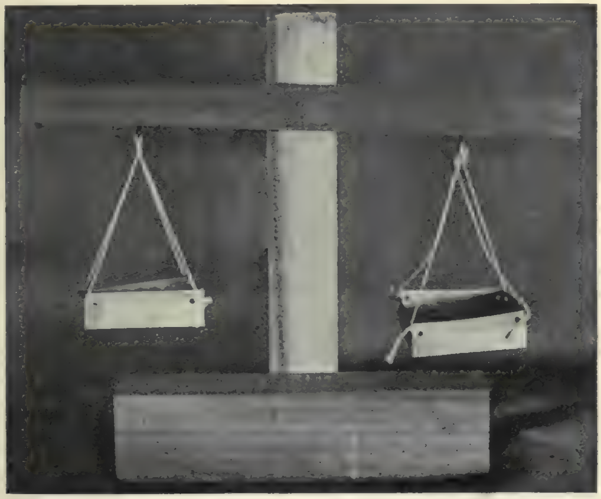
The problem of transportation in this period divides itself into the two parts—transportation by water and transportation by land. As Phœnicia furnishes the background for this study, transportation by water is considered first. After a discussion of the kind of boats that such a people may build various forms of galleys propelled by oars and sails are worked out, and fashioned in wood or clay. Sometimes a group of children work together on a large galley, such as is shown in the illustration. In this one each child in the class made an oar, while a group of boys made the boat, masts, etc., and the girls sewed and decorated the sails.

The consideration of land transportation does not offer many opportunities for constructive work. A study is made of different methods of carrying burdens by human labor, and various contrivances such as pack baskets and pole carriers are worked out in small size. The different capacities of various beasts of burden, such as the horse, donkey, and camel are investigated and the best methods by which each can be made of use are studied. Simple forms of drag or sled which do not require much skill in construction are made, and then a cart with wheels is evolved. Again a representation of a caravan crossing a desert is made on the sand-table. The camels modelled in clay with loads strapped to them are seen following a trail towards a green oasis.

Galley

The great necessity in such work is to make each study a genuine problem for class thought, and each result so thoroughly an expression of the thought that it will be alive with significance.

The necessity for accurate means of measuring as developed by trading demands constructive work in a number of ways. The need of standards of weight and of money suggests the making of a small balance. This is made in the simplest fashion, of three pieces of wood, a base, upright, and balance beam, each cut to the proper size. They are nailed together and small trays of cardboard are fastened to each end of the balance beam. The exact balancing of the beam is a difficult task, and calls forth the ingenuity of the children. One end is heavier than the other and the question arises "What can be done to make it balance?" All sorts of ways are suggested and tried, such as cutting off the heavier end, adding more string or extra nails to the lighter, until the problem is solved. From this we pass to the establishment of a money standard. First a small piece of lead is cut and used as a unit. Then another is cut a trifle larger and trimmed down until it exactly balances the first. Each of these pieces is marked (1), and as many are made as desired. Then two units are placed in one tray, and a piece cut to balance them. This piece is marked (2). Other pieces are weighed in the same manner until a convenient system is evolved.



Balance

Trade in such things as cloth brings up the problem of measurement of length and the standards that would probably be used. Thus we pass to the idea of the cubit (the distance from the point of the elbow to the tip of the out-stretched finger), the ell (the length of whole arm), and the foot, as the length of the human foot. The children make measurements on the blackboard of the length of their own arms and see by comparison that they differ considerably. In this way the necessity for a fixed unit of measurement is seen, and the meaning of the modern standards of foot and yard is made clear.

The question of measuring time comes in naturally with these other problems, and the problem of how people who had no clocks can accomplish this is studied. The idea of the sun-dial for measuring large periods, and of the hour glass for shorter periods is brought out, and both of these instruments are constructed, the latter in the very simple form of an inverted paper cone with a small hole at its apex.

Dutch House

In the article on "Early Trade and Discovery" it is shown that the early voyages of trade invariably led to voyages of discovery, and these in time to settlements. In this connection the voyages of Columbus and of other explorers are studied, leading up to the Dutch settlements on Manhattan Island. To illustrate the life of this period sand-table representations are made, showing small houses of the old Dutch type, with gabled ends, made of cardboard and painted to represent bricks. The Dutch fort is also shown walled around and having the church and schoolhouse within its walls. Small boats and craft are seen just off the shore. A large Dutch house may be made by the class to show the development in house construction from the hand-made and sun-dried bricks used by the agricultural people to the moulded and kiln-dried bricks used by the Dutch. Simple elements in frame house construction also enter in, as the sides and back of the house are usually made of wood. Several children in consultation with the teacher plan the size and proportion of the house. Then the method of making bricks in moulds is discussed with the children, and they are led to see the advantages in the ease, rapidity, and regularity with which the bricks can be made. They are also led to see that the process of firing or baking the bricks greatly increases their strength, and to realize the consequent possibility of more permanent and safe shelters thus afforded. A simple form of mould is evolved which resembles a box without a cover. This is made of wood, just the size of the brick (3″ x 1½″ x 1″). The clay is packed in very carefully, so that there will be no cracks, and the mould put aside until it loosens from the clay, as it will shortly. When sufficiently dry the mould is turned over and the brick falls out. The moulds can be used again and again until the necessary number of bricks are made. Sometimes the children make their moulds long enough so that several bricks can be cut from the one strip of clay. After the bricks are made and thoroughly dried they are ready for the kiln. The children gain a good idea of the kiln and the manner of operating it, by visiting the one in the Manual Training Department of Teachers College. Usually one or two class lessons are spent in brick-making, and it is then assigned to a group while the rest of the house is being constructed by the other members of the class. The structure, however, is first considered in a class lesson, and the simple parts such as rafters, sills, posts, shingles, floor beams, etc., as well as the number of each, provided for. When these points are thoroughly understood by the children, the dividing into groups and carrying out of the actual work becomes a simple matter. Two or three children are usually selected as builders. Sometimes the same children build the entire house, and sometimes different ones are chosen for each lesson. The brick part of the house is built last of all, the bricks being fastened together by cement.

It will be realized that the work outlined thus far is very largely group work, and that it leaves much time to be otherwise used. In this grade the differentiation into the usual subjects of school study begins, and to a certain extent each subject becomes more or less independent of the others. So in hand work certain lines are introduced which have no immediate relation to the other work, but which are either further developments of activities already begun in the lower grades, or new lines which broaden and carry forward the industrial thought. Pottery, basketry, and simple cross-stitch embroidery, are among the lines of work pursued.

Cross-stitch Embroidery

In pottery, points of handling and technique begin to be emphasized. The method of building up as compared to that of coiling or moulding in the hand is considered and found to be easier for large pieces. The attention is largely directed to a study of form and an effort is made to have the children gain some appreciation of form, symmetry, and finish, and to work with these aims in mind. A small modeling tool, which has one rough edge and one end slightly curved, is used as an aid.

Tiles with plain surfaces, and simple jars and bowls, are attempted. For the latter a model is placed before the children as they work, and while they do not try to make an exact reproduction of it, either in shape or size, it serves as a guide for proportion and outline. Simple designs in bands are drawn by the pupils and used as decoration on some of the work. These are cut in with the tool or a sharp-pointed pencil.

In basketry some new weaves are introduced, such as the diagonal effect, and twining in soft materials, and better technique and finish are attempted. Braided baskets and saddle bags are made for use in the illustration of land transportation. The method of making square splint baskets over moulds, as compared to making them free hand, is considered and several are made in this way.

The cross-stitch embroidery on coarse canvas gives an opportunity to teach several simple stitches in sewing, and at the same time furnishes a medium in which the children can actually apply some of their work in design. Such work is not unrelated to the main thought of the year, since the Phœnician tradition tells us of the "embroideries on fine linen." Small squares of canvas are embroidered and used as covers for pen-wipers, several pieces of chamois skin being fastened underneath the canvas by a stitch taken through the centre. Mats are also made upon which border designs are embroidered. (The way in which the designs are developed is fully described in the article on "Art.")

From the study in this grade of the necessity for accurate means of measuring time, distance, and weight, the child begins to realize more fully than has been possible heretofore the meaning of the word accuracy. The teacher continually emphasizes the value of quality, commends its excellence when it appears in the work of the class, and strives to inculcate lessons showing its importance for continued success.

L. H. W.

NATURE-STUDY

Since home geography, which is taught in this grade, is simply the study of the immediate environment of the school with special emphasis on human interests, it is evident that, so far as the home geography is based directly on actual study of natural objects and processes, it is true nature-study as that term is now commonly understood. Even the most distinctive part of the home geography, namely, that dealing with human affairs—such as homes, streets, railroads, local commerce—is with few exceptions based on natural conditions, the study of which apart from the human interests and adaptations would clearly fall in the domain of nature-study. It must be recognized then, that in a grade dealing with home geography on an observational basis there can be no real lines drawn; and the best arrangement is to unite the points of view of nature-study and geography in a course known as "Nature-Study and Home Geography."

It is not to be expected that the correlations between the nature-study and the geography of this grade will be closely connected in time. The order of nature-study is largely determined by the progress of the seasons, and this may not fit the logical development of the geography lessons. For example, the study of vegetables suggested below in connection with garden work necessarily comes in the early part of the school year, before the problems of local food supply are reached on the geography side. However, few teachers will claim any fundamental importance for close correlation in time. The one essential is that the observational work of the nature-study should precede those geography topics in the development of which the nature-study may help.

For two or three years the nature-study of this grade has been undergoing many changes in order to bring it into closer connection with the home geography. The outline below is simply the plan for work in 1906–07, and it may be expected that with another year's experience changes will be made in the details of the outline, but not in the general point of view as now expressed.

I. Study of products of the vegetable garden planted by the pupils in preceding spring, life-history, methods of cultivation, varieties, uses as food and for other purposes, insect enemies. Correlation with art whenever practicable. Pupils should visit markets and look for vegetables not in the school garden; also learn where the markets get their supply of various common vegetables. Later make use of these garden studies in the geography problems of food-supply and transportation. This work begins with the school year.

II. Study of flowers, trees, and homes. In the topic "Our Homes" in the geography, emphasize the beauty of home surroundings, especially as produced by flowering plants and trees. Study of wild flowers and trees which add beauty to our home surroundings and of plants cultivated solely for their ornamental qualities. This topic may include wild plants in all seasons in which materials are available; ornamental plants growing in the school garden; growing flowers from bulbs, seeds, and cuttings in garden and green-house in autumn and winter; and the planting of flower gardens in the spring term. No matter in which season ornamental plants are studied teachers should emphasize the idea of the relation of plants to attractive home surroundings. The preservation of trees and native wild flowers and the cultivation of plants for home adornment should be made the most prominent ideas in the minds of the pupils. The extent of the work in this topic will depend upon time and the interest of teachers; but its possibilities are clearly not limited, especially in autumn and spring.

III. Study of fruits, wild and cultivated, especially those used as food. First the more perishable ones; others available even in mid-winter. Structure of fruits, varieties, life-history, and cultivation of plants which produce them, *e. g.*, how an apple tree is started from seed, grafted (specimens for illustration), pruned, treated for insects and plant diseases, fruit gathered and marketed. The kinds of fruits found in markets in autumn, winter, spring, varieties, values, where grown, how preserved.

IV. Water. Some topics which might be developed on an observational basis in connection with this subject in geography: Forms of water—simple experiments. How we get water in the country; in New York City. How plants get water from soil (simple experiments). Why Croton water is muddy. Allow to settle and also filter some through cotton or paper. Where did the mud come from?

V. Soils, in connection with garden work and the geography. Growing plants in fertile and barren soils. Soils, water and drainage, kinds of soil in New York City.

VI. Weather observations.

VII. Simple hygiene of the home and its surroundings.

VIII. Life histories of some insects, especially those affecting the gardens and ornamental plants around homes, and bees and ants kept in observation boxes.

ART

The purpose and aims of the art course in the third grade are the same as those of the second. Much of the work is a repetition of last year's thought. This repetition is necessary to awaken memory, to connect the present effort with the past achievement, to strengthen the foundation already laid, and to make it of immediate use. While the work at times might appear to the uninitiated identical in these two years, yet it is different, for the child is a little older, has a little more experience in seeing and doing, a little more appreciation, a little more power, in fact has a year's additional growth of mind and muscle. All this is taken into account, and the exercises are planned to continue this growth. While it is a serious mistake to require more of a child than he is able to give, since this can result only in confusion and inability to understand and consequently to do, it is equally disastrous to ask less than he is capable of, for if this is done repeatedly, he soon feels that there is no need of effort on his part. Therefore great care is taken that while the work given does not overreach the child's mind, it still does demand the best thought of which he is capable at this age. By this time the art work should strengthen into something more exacting than in the previous grades. The child should study in a thinking way.

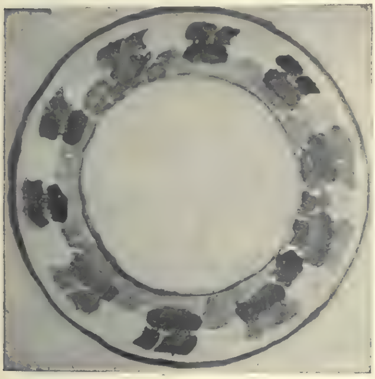


Plate with border of ships

Boy wheeling barrow

If this is done, he begins to feel that to make things beautiful is a delightful and serious experience.

The subject-matter of this year is in part old and in part new. We again use flowers, fruits, vegetables, animals, figures, landscapes in both representation and in design. Early trade and transportation, and early life in Manhattan are studied in this grade, and much of the landscape and figure work is connected with these subjects. Ships of various kinds, one or more in a given space, a frieze of ships (each child painting one panel for it), borders of them on plates or bowls, camels in a given space in a frieze, characteristic Dutch landscapes, Hudson River scenes, children in Dutch costume feeding geese or wheeling barrows, are some of the new subjects.

Indian bowl (drawn from object)

The child works as before directly with the brush in mass, with pencil outline first and full color afterward, with colored crayons, and occasionally with paper applique. No new medium is introduced. The methods followed are those that have been suggested in the second article.

For festival cards we often use block prints. The teacher or older students cut the block. The printing pad is carried into the classroom, and each child prints his own card and then paints it. Since block printing in the schoolroom may still be new to some, we will suggest some ways in which it may be easily done. Any close-grained wood will answer for the block. Gum wood is good, pine will do. The block is sawed about the right size and sand-papered smooth. The design may be drawn directly upon it, or it may be drawn on paper, and the paper pasted on the block. A sharp pocket-knife may be used for the cutting, although a sloyd knife is better. The block may be cut for outline or mass printing. In both cases the parts to be printed are left raised, the other parts cut away. For the younger classes we usually use the outline block. For printing a black outline, almost any black ink is good. To most of the inks a little mucilage or paste must be added. An inking pad is made of several folds of felt or cheese-cloth placed on a pane of glass, or better still on an old-fashioned school slate. For a printing pad we cover a drawing board with several thicknesses of desk blotters, and over these place a few folds of cheese-cloth, tacking the cloth down firmly so that the pad is perfectly smooth. Such a pad, if cared for, will last a year or longer. Newspapers might serve instead of blotters, even a package of drawing paper may take the place of the pad. Pour the ink on the inking pad and spread it evenly with a large brush. Use enough ink to saturate the cloth. Press the block on the inking pad and then on the paper which has been placed on the printing pad. This gives a perfect impression of the block. As soon as the ink is dry, the child may fill in the outline with washes of color. Let the child experiment with the placing of the block or blocks, and decide which spacings are best. Even with the little child some connection may be made between this simple process and the great industry of printing. He can be told that the first books were all manuscript, that only a small number of people could read and write at that time, and that a very few were engaged in writing the books. He can readily understand how laborious and slow book-making must have been, and that the very wealthy alone could afford to own even a few books. Then came the discovery of block printing, this very process that he is using, and the first printed books were made in this way. If possible show him an old illuminated manuscript, and a block-printed book.

In this grade the relation between the manual training and art department becomes closer. Designs are made in the latter department and applied in the former.

Cross-stitch embroidery is taught in the third grade. The designs are made on cross-section paper. If the problem is one that requires a border, the child is asked to make a number of spots or units. He selects the best, and then connects it in several different ways. He chooses the best of these for his border. But in turning the corner he finds a new difficulty. Perhaps his unit can be used in the corner, perhaps it cannot, in which case he experiments until he finds a spot that will go in the corner and yet retain some of the elements of his repeating unit and hold them together. The next lesson is given on the light and dark of his pattern. He works out his design in several different arrangements of light and dark, that is he makes some stitches light, some dark, and the best of these is taken. Finally he chooses the colors of his floss. In this he is led to consider harmony of color and value of tone. In other problems instead of a border he plans corner spots that are not connected. This is given in the same way.

Designs are also made for some of the cardboard work, and may be applied in paint, colored crayons, or cut paper. On candle shades the designs are pricked.

The wild rose designs were given in a dictation lesson, that is the design was dictated part by part by the teacher, while the class followed her directions, the whole class drawing each part at the same time. The colors were yellow or orange and black.

In giving the lesson for illustrating "The Tortoise and the Hare" (the class had read the story), it was decided to take the moment of surprise when the hare wakens and sees the tortoise at the goal. The children were asked what would be in the picture. The tortoise and the hare were of course named first. The teacher then drew on the blackboard a large tortoise and a small one, explaining that he would look like the former if near, like the latter if far away. She drew several hares in different positions. She next asked what else would be in the picture. Some one answered, "The goal." "What was the goal?" "A tree." A tree was drawn. "Was there anything more?" One child remembered that the hare went to sleep under a bush. So a bush was put on the board. It was decided that there would also be sky and grass. Then the teacher drew three or four quick little sketches showing different positions of the objects in the space, that is three or four different compositions. The children discussed the merits of each, and they were erased. But the drawings of the separate objects were left on the board. The children began their illustrations in outline with pencil. When the outlines were finished several painted compositions of the subject were hung up to suggest possible color schemes, after which the children decided upon their colors and painted their outline drawings.

Varying the subject and the material keeps the mind alert and the interest keen.

Each year's work increases somewhat the child's power to appreciate and therefore to enjoy beauty wherever he may find it, and to add something of beauty of his own creation to his life.

M. C. U.

PHYSICAL EDUCATION

Each pupil is examined carefully by a physician connected with the Department of Physical Education. Tests of sight, hearing, nervous control, and the muscular system are made, and the condition of the throat and nasal passages, of the heart and lungs, and of the spine and feet, is determined. A report of this examination is sent to the parents and to the classroom teacher. The latter finds the information very valuable, for it enables her so to arrange her daily program that the physical side of the work may receive prominence. This information leads the teacher to be just in her requirements, careful in the selection of seats for those who need consideration in the matter of sight and hearing, and judicious in her general treatment of the children. Where simple corrective exercises are needed, she may plan to present them in the room. When more serious defects exist, scientific treatment is given by a specialist in corrective gymnastics.

Because little children become easily fatigued, frequent periods for relaxation and free play are provided in the daily program for the classroom. When one set of muscles has been in use for a time, exercises demanding the use of another set are given. Furthermore, much of the regular school work tends to develop and control the larger muscles; for example, planing, sawing, and hammering in manual training, dramatizing in reading, singing, and large free movements in art work.

Each class spends twenty minutes every day in the gymnasium under the direction of a special teacher. The general nature of this work is indicated by the following outline:

Marching.

  Same as in second grade.
  Marching in fours—use "fours right" and "fours left."

Dancing.

  Simple steps.
    Same as in second grade.
    Follow step.
    Pirouette.

Combinations.

- (a) Galop.
  - Circle dance.
- (b) Scotch dance.
  - Circle dance.
- (c) "Dancing Topsy."
- (d) Three slides and hop with right foot. Repeat with left.
  - Step to side with right. Point to side with left.
  - Repeat, starting with left.
  - Step to right and pirouette.
- (e) Slide with right foot—draw left foot to right—hop on right and extend left forward.
  - Repeat, starting with left.
  - "Step and hop"—four times alternating with right and left—going around partner—who takes "step and hop" in place.

Floor Work.

This, in the third grade, assumes a different character. Progression is toward definiteness, ability to isolate movement, which means increased coördination. By insisting upon accuracy of movement and the holding of positions at the end of each movement we work toward our aim. It is not intended that more than a beginning should be demanded in the third grade. For this reason it is difficult to make classifications; those given are made with the aim, rather than the actual result, in mind. All possible combinations are not included.

Definite.

- Response to command.
  - Same as in second grade.
  - Add
    - Hands on neck.
    - Arms upward—bend.
    - Two steps in any direction.
    - Three steps in any direction.
- Exercises.
  - Arm extensions.
  - Arm raising sideways with heel raising.

Arm bending with heel raising.
Arm extension with heel raising.
Same combinations with knee bending from stride position.
Same with alternate foot placed sideways or forward.

Indefinite.

1. Arm and leg movements.
   Clapping hands overhead with heel raising.
   Same with knee bending—Stride position.
2. Trunk movements.
   Clapping hands overhead and behind both knees.
   Stride position.
   Chopping movement.
   Arm extensions alternating with forward bending.
   Same alternating with side bending.
   Same alternating with deep knee bend position—stooping with hands on the floor.
   Arm flinging sideways—then forward and downward with forward bending.
   Arm flinging sideways and alternate side-bending, touch floor with hand on same side.
   Clapping hands overhead and under alternate knee.
   Same raising knee to chest.
   Same raising leg forward with knee straight.
   Arm flinging forward and upward with trunk twisting alternately to left and right.
3. Jumps.
   Separating feet sideways.
   Separating feet forward and backward.
   Jumping up and down on both feet.
   Running in place.
   Clapping hands overhead and separating feet sideways.

Apparatus Work.

Hand Apparatus.

Dumb-bells.

All of the combinations given in the floor work may be adapted for use with dumb-bells.

Balls.

Bounce with right—catch with right.

Bounce with left—catch with left.
" " right " " left, then
" " left " " right.
Same series—tossing ball instead of bouncing.
Alternate bouncing and tossing with right hand.
" " " " " left "
Slow march forward—bouncing with right hand.
" " " " " left "
" step sideways " " right "
" " " " " left "

Heavy Apparatus.
Jump standards.
Plain running jump—work for form in landing.
Stall-bars.
Hanging.
Raising heels.
Separating feet sideways.
"About-face" hanging.
Separating feet sideways.
Alternate knee upward bending.
Both knees upward bending.
Standing on floor—hand grasping bar at shoulder height.
Leg flinging sideways.
Horizontal Ladder.
Hand travelling sideways—with swing and without.
Hand travelling forward—with swing and without.
Travelling forward on hands.
(Work for form in position)
Hanging.
Separating feet sideways.
Alternate knee upward bending.
Both knees upward bending.
Ropes.
Swinging.
Climbing.

- Boom.
    - High
        - Side travelling—with swing and without.
        - Hanging. Same work as on ladder.
    - Low (very)
        - Vaulting—without regard to form.
- Giant stride.
    - Galop step sideways.
    - Stride—right and left.

Games.

- Beater goes around.
- Hare and Hound.
- Games with beanbag.
    - Same as in second.
- Games with basket-ball.
    - Same as in second.
- Crossing the brook.
    - Stepping from mat to mat.
    - Hopping " " " "
- Last couple out.
- Three deep or Catch the third.
- Relay race with beanbags.
- Relay race with Indian clubs.

H. N.

MUSIC

With the lengthening of school experience the first songs of a new school year are apt to be the favorites of the previous year. The teacher has little opportunity to choose, so urgent are the requests for the old songs without much reference to appropriateness of the subject. A spring song or a Christmas carol may be demanded while the glory of the autumn color is being reflected on the walls of the schoolroom. It is not merely the interest in the tune, but the pleasant associations that are connected with the song, that lie back of these requests.

The revival of past favorites gives the opportunity for tuning the class, so to speak, for its new year's work. What was learned with reference to tone quality, enunciation and good rendering is readily brought to mind, not so much formally, as in the act itself.

With this desire for song favorites comes a new spirit. The second-grade pupils have grown since they left school last spring. They are conscious of being third-grade students, and the teacher is quick to utilize this feeling to introduce songs not only entirely new but those making a greater demand on concentration and individual effort. Such a song as "Wynken, Blynken and Nod," so gracefully set by De Koven, might seem from the subject too young for the grade, but its appeal to the imagination through curiosity about the boat and its three fishermen, its graceful rocking motion, its decided change of key, giving an individuality to the benevolent moon, make the song attractive even to older children. "The Crow," by Miss Knowlton, where the accompaniment makes a demand on the attention and the realistic imitation of the crow call revives memories of summer days, is another very popular song. "The Leaves' Party," "The Squirrel," and "Honey Bee," by Gaynor, are used for their fall associations, while after Thanksgiving, "This Tree Was Grown" (*Modern Music Primer*), "The First Noel" (*Folk Songs and Other Songs for Children*), "What Child Is This" (*Old English*), "O, Little Town of Bethlehem" (*Church Hymnal*) give a Christmas flavor to the work. "The North Wind Doth

Blow," Elliot; "Sleighing Song" and "Tracks in the Snow," by Gaynor, carry on the winter thought. "The Snow Birds' Message," "The Little Trolls," and "The Woodpecker" (*Modern Music Primer*), "Rollicking Robin," by Knowlton, round out the seasonal songs. With this work come patriotic songs like " The Flag Song," by Gaynor, besides the reviewing of the regular national hymn and a large amount of material connected with occupations, like "The Workshop."

Two features in the song work mark a special advance on the second-grade work. There is, first, a greater emphasis on the individual rendering of songs with criticisms from the class, and second, a tendency to treat the class more as a chorus, throwing greater responsibility on each pupil, for the effect of the whole. Occasionally the class sings as a chorus before the whole school, the preparation for this giving added zest to the work. The class measures itself with the upper classes that are doing similar work and develops class enthusiasm and pride in good work.

After the song work is well established and the pupils have adjusted themselves to the routine of the school, the second kind of musical activity, intensive work of observation and analysis, mentioned in the second grade, is commenced. At first this work is a review of what was done in the second grade, consisting of acting, picturing, and giving the rhythmic notation of the easier songs and song sentences, then singing from the blackboard, the teacher dictating with a pointer, with a mark placed on whichever line or space is to be considered as *doh*.

Ability is developed to follow the pointer at different rates of speed with changes in duration given to tones, with repetition of some tones before going on, with changes in direction, with introduction of skips of thirds and fourths as in the tonic chord, and finally in exercises combining all varieties of dictation. Another kind of dictation work, preparatory to learning the complete staff, is to call a line or a space doh, singing the sound names down to lah, and back again. Then without changing the pitch of lah, singing me to the tone, and singing up the series me fah soh *doh ti la* requires the singing of a half step and a whole step down. Me fah soh requires the singing of a half step and a whole step up. When this is accomplished, instead of making the change first on the upper and then on the lower tone, both series are sung from the same tone. After *doh ti lah*, *soh fah me* is sung and after *me fah soh*, *lah ti doh* is sung. This develops the ability to sing either a whole step or a half step above or below any given tone. By the time the natures of the whole and a half step have been thoroughly learned, the pupils have realized that the lines and spaces so far used show only the juxtaposition of the regular tones of the scale without showing the nature of the distance that lies between them, whether a whole or a half step. This is further illustrated by writing song sentences on the blackboard showing how the same line and space may represent in one song the distance of a half step and in another that of a whole step. The story is told of how the early musicians tried to improve the notation of the staff by giving to the lines and spaces names representing different pitches, how they borrowed an idea from the Greeks, who named the different pitches of sound with the letters of the alphabet. The early musician wrote one letter down on the staff to show what its pitch was, it being an easy matter to reckon from the letter written down what the others would be. One of these letters taken to indicate the exact pitch of the lines and spaces of the staff was the letter G and it was placed on the second of a group of five lines. The ornamental drawing of this G finally turned into what we are familiar with as the G clef. By thus fixing the sound of G on the second line of the staff it is found that E and F, between which a half step is always sung, come on the first line and the space above it, and that B and C, between which the other half step is sung, come on the third line and the space above that. The pitch of the upper C is given and the children sing the letter names, until a thorough association is made between the letter and the line or space that represents it on the staff. The pupils try to sing by taking A, for instance, as the first note and discover how difficult it is to have the order of tones come right. They discover that only when they take doh on C can they make the order of the sounds represented by the sound names and that required by the staff when the G clef is placed upon it agree. A little song like "Gently Rocks My Light Canoe" made up entirely on the first and second notes of the scale is sung commencing on the various pitches. The song sounds natural when commenced on F, G, or A but very unnatural when commenced on E or B, where the letter above requires the half step. Pupils discover that this limitation of pitch is not because of the lack of the proper tone, for they can sing the song anywhere, but because of the inability to represent the tone on the staff when its lines and spaces represent fixed pitch relations. The teacher shows how the soh fah me represented by the letters G F E may be changed to doh ti lah by placing the sharp sign on the space that represents the letter F, making it express a tone half a step higher. The pupils now practice singing doh ti lah and soh fah me down from the letter G, using F sharp to represent ti and the staff position of F to represent fah. In other words the exercise learned first with the sound names without reference to accurate representation is now practiced and associated with its pitch representation, so that not only a whole or a half step up from E or down from G can be sung but the nature of the step clearly associated with the sign that represents it. The same thing is done to the half step between B and C. The ability to call C soh and to sing a whole step down produces a tone not represented by the line B, this being half a step too high. The necessity for a new sign is discovered, one that shall do just the opposite work of the sharp, making it possible for a line or space to represent a tone half a step lower than the pitch it represents. This sign is called a flat and the pitches C B A and C B flat A are practiced from above and below, using first the already familiar doh ti lah and soh fah me sound names and then the fixed pitch names of the letters. The pupils now discover that with F sharp and B flat they can write their songs in three different places on the staff. The song sentences and the little original songs made are written in these three different pitches and it is found that for the sake of convenience instead of writing the sharp or flat before the tone whenever it is required it can be placed at the beginning of the music, and that when it is so done it is called the key signature and means that doh may be sung on G when F sharp is used and on F when B flat is used.

In the rhythmic work two duration values are studied, resembling each other in that both consist of a long note followed by a short note, the difference being that in one the two notes are completed in one pulse, while in the other, two pulses are required to complete the two tones. These durations are first observed then the songs are acted and pictured and when the difference between these durations is thoroughly learned, whether they occupy one or two pulses, the notation is given, by placing a dot after an eighth note for one and after a quarter for the other.

Creative work or song-making described in the article on the second grade is more effectively accomplished in this grade. The pupils after a little practice in making songs in the class find no difficulty in composing them by themselves, their notation being worked out in the class. Before such work is commenced the class discusses with the teacher good subjects for songs, giving reasons why some are better than others. Subjects that express some motion or activity, or that present a mood or definite state of feeling like pleasure or regret lend themselves more readily to musical settings than do prosaic statements. For instance, in subjects having to do with wind or water, with occupations like those of the blacksmith or of the milkmaid, or with plays like swinging, see-saw, jumping rope, which express motion and activity, we use the rhythmic materials of music in setting the words to music, while for the expression of states of feeling like regret, longing, cold, weariness, or their opposites, we use the color quality of the tones, such as the bright group of the major chord and the dark of the minor. Nothing however is said about major and minor, the pupils simply follow their feelings as to what the tones say. Effective use of such material in songs already familiar is pointed out. The pupils discover how essential it is to make the music say the same things that the words do, and though they do not succeed in making a complete combination they do become sensitive to each others' work, and make excellent critics.

This finishes the description of the three kinds of musical work carried on, showing its relationship to that of the previous grade. The question will be asked, What is the difference in the manner of the work?

In the imitative song work greater independence on the part of the pupil is developed, a better feeling for united effort as a class is encouraged, a keener appreciation of the means used to make songs tonally effective is aroused, and there is awakened a feeling for the song not as something foreign to the school work, forced into it for recreative or amusement purposes, but as something with which to express the poetry of school life, so closely associated with its work that one easily suggests the other.

Under the second phase of musical activity almost the entire work is limited to such a presentation of the staff that its intricacies arise naturally from what it attempts to represent, rather than because of the dictum of a teacher. Clef sign and key signature grow out of necessities discovered by the pupil instead of being offered as arbitrary signs for him to memorize.

In the third kind of work the song appreciation of the imitative work and the analysis and notation knowledge developed in the staff presentation are put to a practical test in the vital imaginative activity required in song-making, differing from the second grade work in that there is a clearer realization of the means used for the end obtained.

H. L.

TIME SCHEDULE

GRADE III

Number of minutes per week devoted to the various activities.

Reading and Literature	115
Language	90
Spelling	50
Penmanship	75
Arithmetic	150
Manual Training	70
Home History Home Geography Nature-Study	160
Art	70
Physical Education	80
Music	60
Recess	75
Opening Exercises	75

Elementary School Curriculum

FOURTH YEAR

READING AND LITERATURE

Grade IV

When the average child of eight or nine enters the fourth grade of the Horace Mann School, he has mastered the ordinary formal elements of reading, has read much and is eagerly demanding "more books to read." It remains, then, to help him to greater speed and accuracy in silent reading, to increase his desire and power to give pleasure to others by oral reading, to give him only that which is best in form and content, and so to help develop in him a taste and feeling which shall reject the trashy, or worse than trashy, books which are constantly thrown in his way.

It is not easy to find plenty of material which answers all these demands. The long story or poem is most often used, because it sustains the interest and frequently makes the most lasting impression on the memory. Kingsley's *Water-Babies* may be read first, because the vocabulary is not too difficult; the majority of the children delight in its mingling of common and marvellous things; the ethical element is strong, but never forced beyond the point where the child's warmest sympathy goes out to "Tom" and his animal friends; the spirit of play and adventure holds the interest throughout, and the conversational form calls for animated and natural reading. We use the Stickney arrangement published by Ginn & Co., because it omits the long, scientific passages which tire children, and also gives excellent foot-notes and illustrations.

At this age children are intensely interested in animal life and adventure. W. J. Long's *Beasts of the Field* gives some fine animal stories in which most of the statements are not beyond human belief and observation. As each story is read, "Br'er Rab," "Meeko," the squirrel, and "Tookhees," the "fraid" little mouse, live with us in the schoolroom and are watched and fed by the children. "Br'er Bar," the deer, and the beaver are visited in Bronx Park.

Ruskin's *The King of the Golden River*, Baker and Carpenter's *The Fourth Year Language Reader*, and many history stories may be taken if time permits.

The last two months of the school year are usually given to Scott's *Lady of the Lake*. Objections are often made by outsiders that it is much too difficult, but experience proves this false. It is so vividly picturesque, so full of rapid movement and adventure, and so really simple in plot, that there is hardly a child who does not become enthusiastic in the work. We have had many cases of children who, formerly indifferent or timid readers, became the good readers of the class through being filled with the dramatic spirit and rhythm of the poem. Often little boys who "hate poetry" finally say: "Oh well, this is n't like other poetry."

Other poems are read or memorized, such as *Birds of Killingworth*, *The Bell of Atri*, *The Wreck of the Hesperus*, *The Pied Piper of Hamlin*, and various Christmas carols.

Once a week, or oftener if time can be saved for it, the teacher reads aloud such stories as "The White Seal" and "Quiqueru" from the *Jungle Books*, when studying in geography about the Arctic regions; or the *Uncle Remus Stories* by Harris, when studying the colonial history of the South.

The last half of the year we have a class library which is thoroughly enjoyed by the children. It is made up entirely of books loaned by the children and teacher. To be admitted to this limited collection, a book must be very excellent from a general literary standpoint, or fairly good when it relates to such class subjects as history, geography, and nature.

When a new poem or passage such as the first and second stanzas of *The Lady of the Lake* is given to the class, the teacher often reads it aloud first, after which the children volunteer to read it. The class is encouraged to ask questions, and when it seems good to have the teacher ask questions, she may ask such as these: "In what kind of a country is this hunt? Name all the things which are moving. Close your eyes and *see* the pictures. What colors do you see? What sounds do you hear? Read aloud the lines which have sound in them. Read the lines which tell us the time of day."

In *The Lady of the Lake* there are frequent stanzas which it is best for the teacher to read, letting the class follow in their books; or she may give the substance in her own words, letting the children comment and ask questions. We do this with all of Canto III ("The Gathering"). This keeps up the interest while saving time for more intense study of "The Combat," where the children linger over every word, and consciously or unconsciously memorize fine couplets or whole stanzas. It is easy to get good dramatization work here. Often the boys will voluntarily memorize "Fitz James'" or "Roderick Dhu's" part that they may more freely give such lines as these:

"Come one, come all, this rock shall fly
From its firm base as soon as I."

or

"These are Clan Alpine's warriors true,
And, stranger, I am Roderick Dhu."

Then comes a time when they attempt original illustration in charcoal, and frequently we get them as good as those figured on the following page. We have a few fine photographs of *The Lady of the Lake* country which the children compare with their own sketches, and often they bring second efforts which they have made at home.

In every class of thirty children there will be poor readers. These are given a choice of favorite stanzas to be prepared at home and the next day read to classmates. In no other way can they take much active part in the oral reading of difficult material. We have much silent reading and often the oral reproduction in the child's own words, but not where it might detract from the impression made by beautiful English. Often a child can express the idea he has gained most clearly by a quick

Charcoal sketch to illustrate "The Lady of the Lake"

Charcoal sketch to illustrate "The Lady of the Lake" sketch on the blackboard, which he is always encouraged to do. Long's story of *The Beaver*, where the three kinds of dams are described, gives such an opportunity; and in the manual work one or more of the varieties are often made. A large blackboard is given up to the class. Here the children may draw "Tom and the Lobster," "South-west Wind, Esquire," whole rows of prankish bunnies, or fishing smacks, as their latest interest dictates.

At the first of the year an estimate of the class taste in poetry may be obtained by letting each child memorize and give a favorite poem in the recitation period which comes once a week. Most of such choices are fine, but occasionally a child prefers only the comic, and declares Mackay's *Miller of Dee* "stupid," or Stevenson's *Winter-time* "silly." The class choice is against him, however, and gradually he comes to do better, though he may never make a poet. This recitation hour on Friday is welcomed with glee. It furnishes a chance to review old favorites of past years, as well as to make new friends. The class library also gives good training. So far as possible the children decide what books shall be admitted to it, but the teacher must have the final verdict. A librarian is elected by ballot. It is understood that this child must be a regular attendant, a good writer, and a careful handler of books. He or she must keep a record of the library list, the books drawn, and the time of their return. Although this is a somewhat laborious position, as all the work must be done before school in the morning there are few who will not seek the honor.

It always seems hard to tear ourselves away from the joys of reading to give time to the more formal work, but this we do. The drill in phonetics is continued, and many enunciation exercises are given from such things as dear "Mother Goose" and familiar proverbs and comparisons. For example,

"Haste makes waste."
"Handsome is that handsome does."
"Birds of a feather flock together."

or

"As fierce as a tiger."
"As blind as a bat."
"As greedy as a pig."

These are sometimes given as whispering exercises. Many a merry laugh results, but seldom are our feelings hurt. Little direct voice culture is given outside of the singing class. In extremely bad cases we give special work.

When at the end of the year's work we often feel much dissatisfaction with the children's efforts, we must seek comfort in a backward look. Then we realize that they have gained in power to get and give pleasure, that they have become better critics of books, and therefore have strengthened their small armors against much which might injure them in later years.

I. E. R

LANGUAGE

GRADE IV

The class of children who make up the greater part of the Horace Mann School naturally do good English work where imagination and general information are needed. Perhaps it is partly due to this very blessing that they incline to ignore the formal side of their written work. Our problem, then, is to strike the happy medium of encouraging and developing all natural talent, while we also train them to write, spell, punctuate and form sentences.

Spelling. The children are given lists of classified words to be spelled orally. In all oral spelling careful division into syllables is very helpful, but we seldom require it in written work where it leads to broken and slow writing. We take pages of unclassified words and let the children group them according to prefixes, suffixes, vowel sounds, silent letters, or rhyming words. The habit of quick observation and the practice of always studying the correct form first and then reproducing it are the secret of good spelling; and this habit we try to form in every possible way. In working with word meanings, or common homonyms the children study the correct sentence form first, then work with given sentences where they may fill in blanks with the right word. After the necessary study, the dictation exercise of words, related sentences, a fable, or a stanza of poetry is the daily test; but even better than this is the writing from memory of a part or the whole of a poem which has been memorized, because here there can be no temptation to make guesses.

Sentence Study and General Punctuation. The form and use of the statement, question, command, and exclamation are dwelt upon, and in this work we include common punctuation, and use of capitals. Such lessons as the following are based on previous reading:

Possession and the Apostrophe.

Find three apostrophes in the following sentences:

1. The robins' nest is in John's pear tree.
2. Where is the oriole's nest?

The words containing the apostrophes show what? Who owns the nests? The pear tree?

Written Exercise.

I.

Copy the following sentences:

1. Beavers have flat tails.
2. The otter has thick fur.
3. A weasel has sharp teeth.
4. Rabbits have teeth like chisels.

Change and write these sentences so that beavers, otter, weasel, and rabbits show the ownership.

II.

In the "Legend of St. Christopher" find and copy all the words which show possession. Use these words in sentence, of your own. Be sure you use the apostrophe correctly.

Often the children enjoy copying from the blackboard an unpunctuated paragraph or stanza of poetry, punctuating it as they think best, comparing their work with the correct form and changing theirs where necessary.

Composition. In this grade we still have oral work precede most of the written composition, but the children write much more than formerly. Early in the year they delight in giving stories of vacation adventures, or they reproduce in their own words a story which the teacher has told. An occasional imaginary conversation in fable form between such folk as a dog and a squirrel, a fox and a hen, or a bat and an owl, is enjoyed by the children. A story based on a picture, poem, or imaginary experience appeals to children with lively imaginations, while others can do their best work in reporting an excursion or a lesson in geography or history. All such work is corrected by the teacher and children, and frequently read to the class for criticism on such topics as clear sentences and good topical arrangement.

The simple outlining which was begun in the third grade is carried on more systematically here. A topic in a history or geography lesson furnishes an easy basis for outlining; later we may together work out a simple outline for a composition, but rarely ever write from it, as it leads with such young children to stilted work.

We have frequent letter-writing. Such model letters as Phillips Brooks, Charles Kingsley, or Lewis Carroll wrote to children are studied in order to inspire them to rise above the commonplace things which they most often write. In the same way we study some clever diary, after which each child keeps one at home for a week, then shares it with his class, provided he is willing.

It is most interesting to note how the reading of such English as *Water Babies* or *King of the Golden River* influences the style of the imitative child. The following is an illustration:

A Story of a Stream.

I am a Stream. I was very small in the mountains; and the brook trout jumped and splashed, and the otter glided in and out after the fish, and went up into the hole in the bank with a fish that he had just caught.

The squirrels came and quenched their thirst and ran back to their homes in the trees.

Sometimes I saw the bunnies coming down to frisk and play, and in some places I was so narrow they could jump over me.

Then a lot of small streams flowed into me; and I grew to be a small river. There were forests along the mountain slopes here and there. These were of great pines and other evergreens, and in open places I could see down upon the plains with herds of cattle and ranch houses dotted over them.

Sometimes I flowed through villages where there were bridges across me.

It is getting very cold now; and my sides are freezing and the ice gets nearer to the middle of me.

Now in December I am frozen all over, and people are skating and sliding and they are having to clean snow off me and are making roads across me for the sleighs to cross while I am gurgling along underneath.

Back in the mountains the squirrels and all the other animals are asleep and the little fish have to get into the deepest holes.

The children delight in feeling that their finest work may be published in *School Days*, the monthly magazine which is entirely devoted to their writings. It encourages original puzzles and illustrations, and furnishes the most practical incentive to their best effort.

I. E. R.

PENMANSHIP

GRADES IV AND V

The article on penmanship for the Second and Third Grades, (p. 161), applies so fully to the Fourth and Fifth Grades that little more need be said. We work along the same lines for interest, effort, good sitting position, pen-holding, form of letters, uniform size, neatness, and arrangement of work. In these grades we begin to work for speed so far as is possible without sacrificing other essential qualities of good penmanship. Sometimes the pencil is used for drill where we are working for easy movement alone, but the bulk of our written work must be done with pen and ink.

No regular period on the program is assigned to penmanship in grades above the fifth. By insisting upon care in every detail of the written work, and by giving individual attention to poor writers we obtain the result at which we aim—a neat, legible, and practical style.

ARITHMETIC

GRADE IV

This article contains an outline of the arithmetic work of the fourth grade with several suggestions as to the methods of presentation.

The emphasis of the year is placed upon the fundamental operations of addition, subtraction, multiplication, and division. Although the principles of these operations have been taught in the preceding grades, it should be remembered that constant drill is necessary to give the child ability to handle rapidly and accurately these operations in general problems. At the same time much variety in method is planned to keep the child from losing interest.

In oral drill Card No. 7 (Boston School Supply) is occasionally used, as it contains all the necessary combinations. A five-minute brisk review, with emphasis on multiplication and addition, these being the operations most used in practical life, is a great help in securing the important qualities of rapidity and accuracy in the written work.

In the daily thirty-minute periods one half of the time is given to oral and the other to written work. As in the preceding year, a text-book is considered necessary and Smith's *Primary Arithmetic* is used. The ground covered extends from pages 129 to 222 inclusive.

The Outline is as follows:

Review. The first month of school is devoted to a careful and systematic review of the third grade work.

Notation and Numeration. Numbers as far as billions are used and written, but the drill is chiefly on numbers below one million.

Counting. The counting of the lower grades is carried on as required for completing the multiplication tables to 10 × 10 and as an aid in addition.

Addition and Subtraction. In the quick oral work "carrying" is involved. The written work consists of four or more orders including dollars and cents. In subtraction the addition plan or "Austrian method" is used, and the general steps which were developed in the preceding grade are reviewed.

Multiplication and Division. Oral. The tables are reviewed and completed, and numbers of two and three orders are multiplied and divided by numbers of one. Numbers below 50 are separated into factors. Multipliers of three orders are used in written work, and in division special attention is paid to proofs.

Measurements. Long and square measures are developed, distances between well-known places, dimensions and areas of rooms and garden plots are found. Diagrams are used.

Problems. The problems are simple, and involve the use of U. S. money, the common purchases of a family, and the common occupations.

SUGGESTIONS AS TO METHODS

The principal feature of the year is a thorough understanding of long division, and accuracy and rapidity are insisted upon. A child enters the fourth grade with an understanding of the process of short division, and as long division involves no new principles a divisor of two or three figures presents no new difficulties. Nevertheless, the successive steps for explaining short and long division are given to the child, but formal explanations are not required of him, as in the written work the short form is used. When a class is beginning work in long division, the problem should never be difficult enough to divert the pupil's mind from the process he is trying to learn; thus the divisors 21, 31, 41, etc., are used at first, and 102, 201, 402 for three-figure divisors, for the reason that they are almost always contained in the dividend as many times as their first figures are contained in the first figure or figures of the dividend, and the work becomes very simple.

The complete process developed by the teacher for the following problem is:

We see that $6000 \div 21 =$ no thousands but that $6700 \div 21 = 300$ and $400 + 41$ remaining to be divided; $441 \div 21 = 20$ and 21 still remaining to be divided; $21 \div 21 = 1$. Therefore the quotient is 321.

$$\begin{array}{rl}
\underline{321} & \\
21)6741 & \\
\underline{6300} & = 300 \times 21 \\
441 & \text{still to be divided} \\
\underline{420} & = 20 \times 21 \\
21 & \text{still to be divided} \\
\underline{21} & = 1 \times 21
\end{array}$$

Short form used by the pupil:

$$\begin{array}{r}
\underline{321} \\
21)6741 \\
\underline{63} \\
44 \\
\underline{42} \\
21 \\
\underline{21}
\end{array}$$

In multiplication the explanation for the following problem is made by the teacher in this way:

We might multiply the units, tens, hundred, etc., separately, and add the products; but that takes too much time, so we say 9 × 6 are 54 (writing 4); 9 × 4 (tens) are 36 (tens) and 36 and 5 are 41 (writing 1); 9 × 8 (hundreds) are 72 (hundreds) and 72 and 4 are 76 (writing 6); 9 × 7 (thousands) are 63 (thousands) and 63 and 7 are 70.

$$\begin{array}{rl}
7846 & \\
\underline{\times 9} & \\
54 & = 9 \times 6 \\
360 & = 9 \times 40 \\
7200 & = 9 \times 800 \\
\underline{63000} & = 9 \times 7000 \\
70614 & = 9 \times 7846
\end{array}$$

In connection with measurements, bright, wide-awake children like to work with things rather than with mere ideas, and the following problems were done with enthusiasm during the work on linear and square measures. Three days were given in which to work out by themselves the answers.

1. How long a wire is required for the front blackboard?
2. What are the dimensions of the wall-map of N. A.?
3. What is the area of the classroom?
4. How many square yards of burlap are needed to cover the space under the clock?
5. What are the dimensions of the bookcase doors?
6. Find the area of your garden plot. How many feet of fence would it require?

Besides the use of Card No. 7 the following devices are used in oral drill: Easy examples involving the four operations are written on the board one at a time and quickly erased. The children put the answers on paper, exchange, and correct.

Pupils are occasionally asked to give at a glance answers to problems like these:

150 ÷ 75	39 ÷ 3	99 ÷ 33
25 × 8	72 ÷ 12	500 − 250
16 × 4	36 ÷ 2	42 + 18

Copies of the following are given to the children:

	a	b	c	d	e	f	g	h	i
1.	11	36	74	100	5	6	9	12	7
2.	21	32	81	100	8	7	11	8	11
3.	18	53	90	100	7	1	6	11	8
4.	22	41	76	100	3	11	9	8	12
5.	13	47	83	100	9	2	10	8	3
6.	12	38	97	100	4	10	7	12	6
7.	16	57	80	100	2	5	8	9	5
8.	28	33	89	100	6	6	4	11	6

Add e, f, g	From b take a	Multiply g by h	Divide b by g
“ e, g, h	“ c “ b	“ h “ i	“ d “ g
“ e, h, i	“ d “ c	“ f “ g	“ d “ f

Problems. Particular attention is given to problem work. This is related, as far as possible, to the studies of the grade, thus appealing to the interests of the child. Occasionally facts of the business world are used. A valuable exercise is the invention and solution of problems by the pupils. As a basis for this work it is well to give to the children price lists of clothing, provisions, railroad and steamer rates. The history and geography lessons afford excellent material for numerous problems. Cards on which are written problems similar to this, *$1.00 — (6× $.08,)* are given to the children for problem making. During a free period following a lesson on liquid measure, these original problems, a few of many similar ones, were written on paper by the children and solved in the next arithmetic period.

1. Cook used 8 quarts of vinegar to make pickles. How many gallons did she use? At $.04 a pint, what was the cost of the vinegar?

2. Mary watered her garden, carrying the water pot six times. It held 8 quarts. How many quarts did she carry in all? How many pints?

3. Lucy went to the store to buy 3 pints of milk for fudge. It cost $.08 a quart. She gave the man $1.00. How much change did she receive?

4. A gallon of maple syrup cost $1.20; what is the cost of 3 quarts?

As has already been stated, the emphasis of the year is placed upon the four fundamental operations with the result that the pupils acquire the ability to use these operations with a fair degree of accuracy and speed. This means that the larger part of the recitation period is devoted to oral and written drill and that every effort is used to keep the pupils thoroughly interested in their work by the use of a variety of interesting devices. There is no royal road to the mastery of these fundamentals of arithmetic. Success will depend upon the ability of the teacher to keep the child working with zeal and enthusiasm at his full capacity.

F. M. M.

GEOGRAPHY

Grade IV

By the time the child has reached the fourth grade he has acquired some knowledge of the geographic features of the home locality and its life conditions; he has been taught to realize to a certain extent his relations to neighboring regions and to distant localities, and in the use of globe and wall maps he has been given a general idea of the world and the location of the continents, oceans, and heat belts. Thus, with a review and an enlargement of the world conditions of the third grade, the child is definitely prepared to begin the next stage of the geography course, which consists of a study of North America and especially of the United States.

At the very beginning care should be taken to give the child a right conception of a continent as a land mass having highlands, lowlands, slopes, and river basins. It is generally agreed that children should know their own country early, but as a thorough study of a continent cannot be made by young children with the care and detail that it can later on, North America and the United States are again studied in the seventh grade, but from a different point of view. The primary study places the emphasis upon the industrial side and the later study upon the physical side.

In the study of an industry only a small portion of time is given to the technical details, as they are not generally understood by the children and consequently of but little value, but the emphasis is placed upon those phases which develop a knowledge of the geographic conditions that determine an industry.

The outlines for continent study and for the study of the political divisions of the United States are as follows:

I. Position	In hemisphere In relation to other continents, to oceans. As to heat belts.
II. Size	Compared with other continents.

- III. Surface
  - Highlands
    - Appalachian
    - Cordilleran
    - Compare as to height, extent, grandeur.
  - Lowlands
    - Atlantic plain.
    - Great central plain.
    - Pacific slope.
    - Coast lines, harbors

a. Part densely populated. Reasons.
b. Effect of surface upon drainage.

- IV. Drainage
  - A. River systems
    - Arctic,
    - Atlantic,
    - Gulf
    - Pacific
    - source, direction of flow, length and importance of principal rivers, comparisons
  - B. Lakes: Great Lakes; importance.
- V. Climate.
  - Heat belts.
  - Winds. General direction noted.
  - Rainfall. General distribution
- VI. Vegetation
  - Tundras.
  - Forests.
  - Grass lands.
  - Deserts.
- VII. Animals
  - Arctic region.
  - Southern region.
  - Central region.
- VIII. People
  - Eskimo.
  - Indian.
  - Mexican.
  - People of U. S. and Canada.

The continent study is followed by a brief study of the United States as a whole, preliminary to a detailed study of each section like the following.

Southern States.

1. Position in United States.

2. Climate.
3. Surface.
4. Drainage.
5. Industries.

Agriculture.

(Other typical products are treated in a similar manner.)

- (a) Cotton
  - Conditions for growing
    - Slope.
    - Soil.
    - Climate.
- (b) A cotton plantation
  - Extent.
  - Life on plantation.
  - Growth of plant.
  - Uses of cotton.
- (c) Cotton centres
  - New Orleans.
  - Galveston.
  - Savannah.
  - Charleston.

Locate and give reasons for these locations.

Other industries of this section are studied to an extent sufficient to make the children realize that other occupations are carried on here, though not so extensively as agriculture. Industries are compared with those of other sections. At the close of a section study, the conditions favorable for each industry are carefully reviewed.

Method. In teaching the geography of this grade the oral discussion of topics is the method employed. Use is made of Dodge's *Elementary Geography*, and Tarr and McMurry's *Geography of North America*, but the topics already given in the outline are developed in the class and the text-books are only suggestive. Each topic is developed as a whole, though its relations with others are discussed.

In the study of the surface of North America, instead of having the children get the facts from the text-book exclusively, they make a study of stereopticon views, photographs, and maps, From this study they are led by questions to gather information about the highlands, the lowlands, and other physical features. Often in the study of the political divisions of the United States the children, from observation and reasoning, make their own geographies, and this plan has given them much enjoyment. After class discussion lessons from text-books are assigned as a summary and review.

As it is necessary for children to use their imagination in almost every geography lesson, the teacher endeavors by sketch and verbal descriptions to stimulate their power to visualize. Sometimes they are asked to close their eyes and picture the scene or form images of the object.

During the development of a subject, a list of topics is placed upon the board and later copied by the pupils for use in oral or written reproduction. A lesson on agriculture, following a study of surface, climate, and drainage of the Southern Mississippi Valley States, was presented as follows: After the children had been told that agriculture is the leading occupation of the South, the question was asked "What are the conditions that make this industry possible?" The requirements—a slope suitable to hold soil, fertile soil, a suitable climate, and nearness to a market or a good shipping centre—were developed during the study of New England, but were again carefully reviewed and compared with the conditions of other sections, especially as to differences in climate. Using the wall and book maps, the children, with this previous knowledge of surface features and conditions, located the agricultural sections. The information concerning the products raised was given by the pupils from what they had read or from personal experience, as many of them had been to the southern states. The conditions for raising cotton, rice, and sugar cane were read by the pupils and the areas were then located. Here the question was asked, "Why is not all the cotton manufactured here instead of shipping a part of it to New England?" A cotton plantation was then studied according to the outline; the leading centres, New Orleans and Galveston, located, and the reasons for their location given. During the study of a cotton plantation these questions were raised: "How does the population of this section compare with New England where farms are small?" "Why are there so many negro laborers in the south?"

At the end of the year the children have gained a good working knowledge of the United States, and have learned to see their country as a whole with closely related parts. They have been taught to read maps and to relate the information gotten from them. Their powers of observation, reasoning, and imagination have been stimulated, while self-activity and original thought have been aroused.

F. M. M.

HISTORY

Grade IV

The history of the fourth grade is closely related to the geography, which consists of a brief study of the larger physical features of North America, and a more detailed study of the individual countries of the continent, with especial emphasis upon the United States. In connection with this work is introduced a simple biographical treatment of some typical men of action who have had a large share in the development of the nation. A study is made of Smith, Standish, Winthrop, Bradford, Williams, Stuyvesant, Penn, Franklin, Washington, Boone, Lewis and Clark, and Lincoln.

We attempt to give the children some realization of the debt we owe these men, of the dangers and difficulties they met with in their efforts to develop the country, of the tremendous obstacles they overcame, and of the hardships they suffered. The principles that animated them, their heroism, their patriotism, their loyalty, arouse the admiration of the children and inspire them with high ideals. A large part of the work is given by the teacher, but Thomas's *Elementary History of the United States* is used as a text-book, and the pupils are trained to read and recite on lessons assigned. The history story is arranged by topics, and after each topic is presented and discussed, an outline is put upon the board as a basis for the oral and written reproduction. Throughout the discussion there is a constant use of maps, sketches, and pictures so that situations, difficulties, and scenes may be made clear.

In the psesentation of a story it is the teacher's aim to cultivate independent thought and self-activity in her pupils by making facts and situations so realistic and comprehensible that when problems in connection with the story are presented they may be intelligently solved.

Following are the chief phases emphasized in the treatment of the story of Lewis and Clark, and several illustrations of problems that arose during the discussion. The children were told that at the beginning of the nineteenth century very little was known of the Missouri River and almost nothing of the great Northwest. Now that this land had been recently sold to the United States by France, President Jefferson sent out an expedition to explore the country, and Lewis and Clark were chosen as leaders. The question as to the purpose of the trip led to the facts that the government desired to learn more about the Missouri River, to find a good route of travel to the Pacific Ocean, to learn about the Indians, to establish friendly relations with them, and to observe the soil, climate, plant and animal life with a view to future settlement. When these facts were made clear, the kind of men needed to make up the party was discussed and the preparations for the journey developed. The children realized how much greater the difficulties were then than at the present time, and the need of clothing, provisions, firearms, ammunition, medicine, boats, and presents to gain the good will of the Indians was worked out.

The party halted late in autumn on the banks of the Missouri River. This fact led to a discussion of their reasons for so doing, the best place for an encampment, and what the party did during the winter. Early in the spring the men started again on their journey and soon came to the Great Falls of the river, where their progress by boat was impeded. How did they proceed? The fact of their journeying on foot, carrying the boats and making stronger ones when their own proved too slight, brought out the qualities of determination and perseverance of the men. Often they were half starved, ragged, weary, and disheartened, but they kept on. How were they encouraged? Here followed an interesting discussion of the leaders, their management of the party, and their ability to overcome obstacles. Comparisons with other explorers showed points of resemblance and difference.

In November the explorers reached the Pacific coast, and as it was too late in the year to start on the return trip, they put up quarters for the winter. How did they utilize the time? The pupils saw that now was the time to observe the coast Indians—their manner of life, the animals they caught, and the furs they exchanged; also to learn about the country, its soil, climate, plant and animal life, and minerals. They began the homeward journey in the spring and reached St. Louis in two years and four months after they set out. Of what value was the journey?

At the beginning of the story, maps were consulted, and sketches were drawn on the board to make the routes clear, so that with a good understanding of the situation the problems of the journey could be easily solved. During the discussion the following topical outline was placed upon the board, also in the pupils' blank books, and was used the following day in the oral reproduction:

I. Purpose of expedition.
II. Leaders and men who made up the party.
III. Preparation.
IV. Journey up the Missouri.
V. The Sioux Indians.
VI. Winter encampment.
VII. Journey to the Great Falls and obstacles met with.
  How Lewis and Clark encouraged the men.
VIII. Story of journey to Columbia River.
  Description of the country.
IX. The Pacific.
  Coast Indians.
  How the explorers spent the winter.
X. The return to St. Louis.
XI. Value of the journey.
XII. Comparisons between this and other expeditions.

The lives of the other "Makers of the Nation" are studied in a similar manner, and as they were men associated with various sections of the country and with various stages of its development, there is no reason why this biographical work should not give fairly chronological ideas as to the significant factors in our national growth.

Beside the historical interest that results from this study, we hope to develop in the children greater independence of thought, deeper appreciation of moral courage, of self-sacrifice and of loyalty, and a higher conception of the meaning of patriotism.

F. M. M.

NATURE-STUDY

Grade IV

"And nature, the old nurse, took
 The child upon her knee"—*Longfellow.*

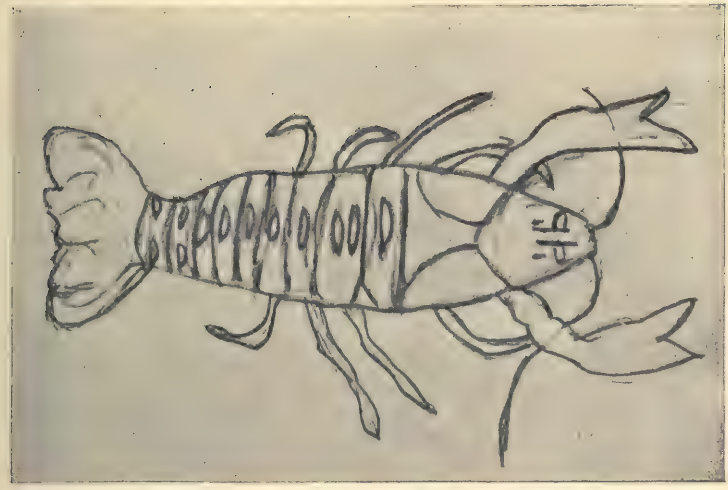
If we are to give nature lessons to little children, we must follow Mother Nature's hints and ways, or we may do more harm than good. If we can lead the city child to step softly lest he crush some tiny, working thing; to rejoice in planting trees and wild flowers, rather than in breaking branches and ruthlessly pulling up plants; to sympathize with the work of country people, and to revel in the joys of out-of-door life, we may well consider nature lessons as part of our school work. With this spirit predominating in the work, we may hope for a fair degree of success in our two other chief aims, namely, training the children in habits of scientific observation, and helping them to a knowledge of useful facts.

Our working plan is based on observational study of natural things suggested by our industrial work in geography, such as agriculture, fisheries, mining, quarrying, and lumbering of the United States. Also we take some related topics which are suggested by our reading of *Water Babies*, such as the dragonfly, nymphs, caddices, and lobsters or crayfish.

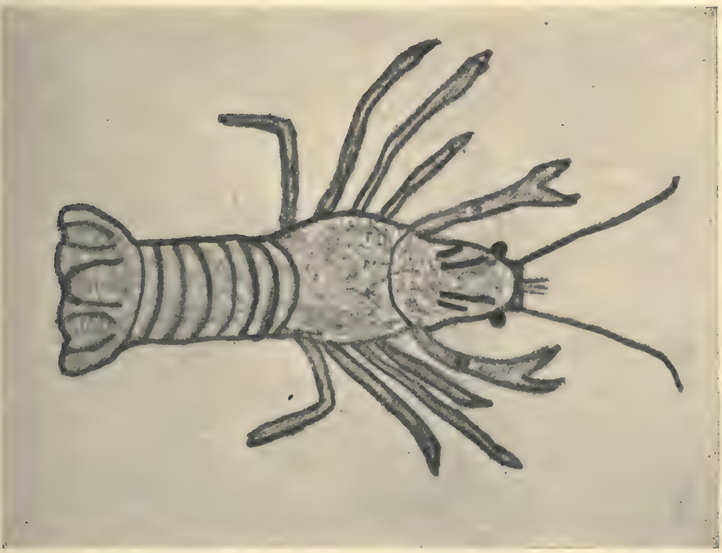
When the children return to school in September, they find waiting for them in the school garden the corn, wheat, oats, rye, barley, potatoes, and sometimes tobacco and cotton which they planted or sowed the previous spring. These help to make the geography and colonial history work very real, and we harvest and carefully study them in their fruit stages.

In October we sow winter rye, one bed in rows as if it were drilled in, another broadcast. This they watch to see which grows and matures more perfectly, and they are led to discover for themselves the reasons for what they see.

We cannot keep live lobsters in the room but we have crayfish living with us as long as we like, and the children care for and watch them every morning. For a period at a time, each



Crayfish drawn in connection with nature-work



Crayfish drawn in connection with nature-work child has a crayfish in a dish on his desk where he may watch it for its peculiar movements and structure, and draw it.

Such questions as these are asked:

How many have seen the crayfish in its native home?
In what kind of places does it like to live?
How does the crayfish move about?
How does it get its food? What is its food?
How does it defend itself?
What is unusual about its eyes?
Of what use to us is the crayfish?

As we work, such an outline as the following is made by the children on the blackboard:

THE CRAYFISH

I. Its home.
II. Its movements. Reasons for them
III. Its external structure. Uses of each part.
IV. Its uses to man.

This study of the crayfish is followed by the subject of lobster fishing in New England. The habits and needs of the salt-water relative are compared with those of the crayfish. Then the special methods of lobster fishing are studied. Together we set up an aquarium containing hardy plants, fish, tadpoles, and snails. One year we were able to gather these from the country brooks, and the snails laid eggs, and the plants grew so rapidly that in the spring there was enough material to stock several small aquaria for the children to take home. In April and May dragonfly nymphs and caddices live with us in much the same manner and are studied as the crayfish. After this no child will fail to visit the New York Aquarium, for the Horace Mann School-child is always glad to know of "something nice to do on Saturday" or holidays.

The common lumber trees which grow in Columbia Campus and Riverside Park are studied from a lumbering standpoint, and the Natural History Museum furnishes fine specimens of wood. This connects the tree work of previous years and the forestry studies of the fifth grade.

With the study of mining and quarrying we have specimens of coal, iron, gold, silver, and copper ore; and such building materials as the stones, sand, clay, and cement which the children see used in the city. We study the characteristics of these enough to decide how they are obtained and transported, and where, how, and why they are used. In some cases we may actually see the quarrying going on in and about the city, and frequently some of the children have visited distant mines and quarries and are able to give us needed information.

As early as possible in the spring the children begin their out-door work in the school garden, where they help prepare the beds and sow the seeds. As the year before they have put in grains and vegetables, they now have flower seeds from which to choose their favorites, such as sunflowers, cosmos, marigolds and nasturtiums, which will be in bloom when they return in the fall, when they will need them for art work and room decoration. These garden beds are watched and cared for by the children as much as possible, until school closes in the spring.

This nature work described above is done at regular periods as far as possible, but we also hold ourselves free to do related work when the material offers, even if the subject be not on our program at the time.

Early in May a child appeared with a great bunch of arbutus blossoms. He told us where he had found and gathered them, and how he had tried but could not make the plants grow in his city garden. Another child volunteered the Indian legend about the arbutus, and in the free period that day a little girl "made up" the following:

THE ARBUTUS

One day the arbutus,
  In pale pink and green,
Rose from the brown earth
  To greet the May Queen.

How fresh the air is!
  How bare the trees!
Little frail Mayflower
  Thinks she will freeze.

Now comes the sunshine,
  Now comes sweet May,

Smiling on everything,
Warmer each day.
Now sweet Mayblossom
Happy may play.

I. E. R.

MANUAL TRAINING

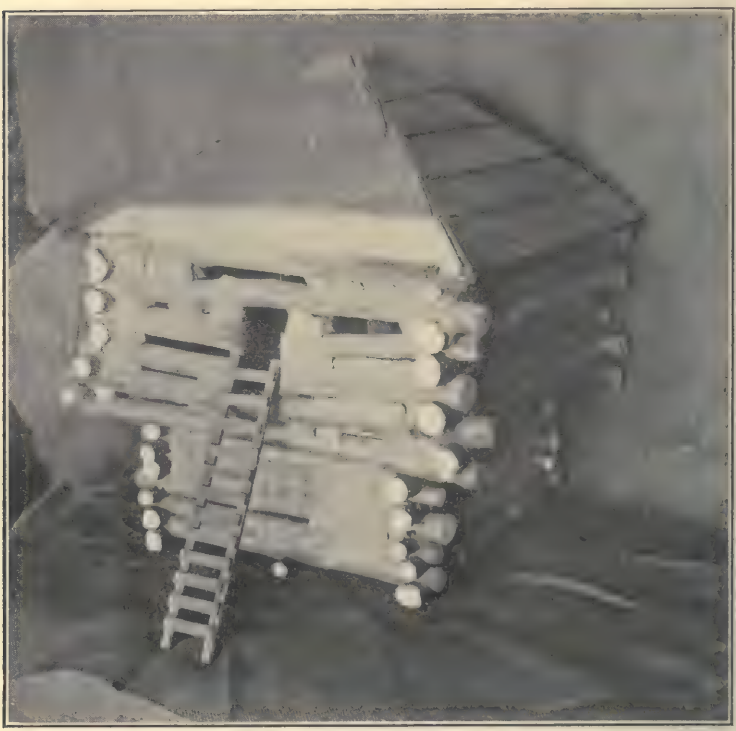
GRADE IV

The handwork of the fourth grade deals particularly with the household occupations as they developed during the early part of the colonial period of American life.

The children come to look upon pioneer settlers as people of an advanced stage of civilization face to face with the problem of securing food, clothing, and shelter, and of establishing means of transportation and communication under primitive conditions. Because of these circumstances, their experiences were much the same as those of primitive peoples, but owing to their superior knowledge and to the fact that they had resources other than

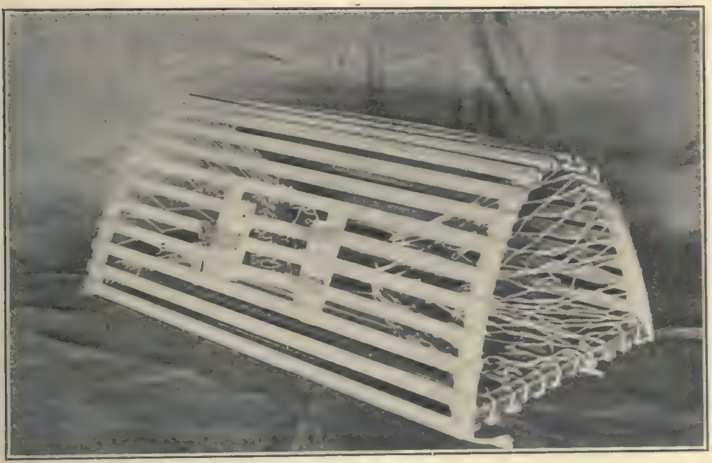
Log Cabin

their environment offered, they developed in all directions much more rapidly. For example, they were not long satisfied with the cave and wigwam or bark house of the Indian as a form of shelter. Seeing the vast forests on every side, and having axes at hand, they felled trees and built log cabins which afforded them permanent dwellings, and insured to them greater protection than did those of the Indian.



Blockhouse

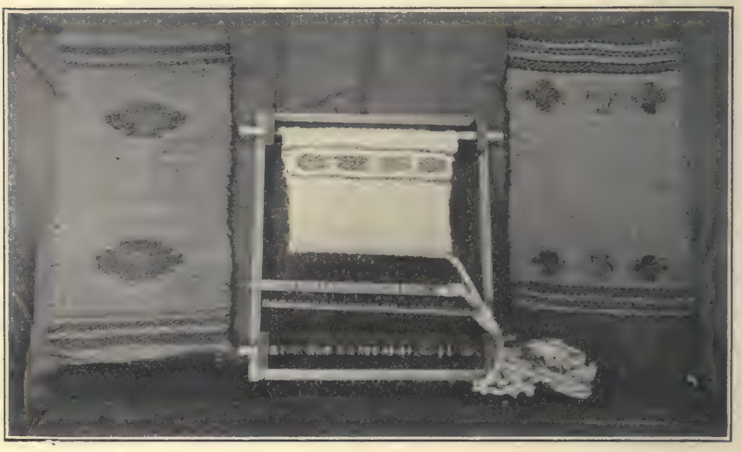
Most of the children have seen log cabins or pictures of them so that they are more or less familiar with their appearance and construction. In this connection they build a small log cabin. They gather what materials they can for this in the vicinity, and if more is needed, excursions are made either to the campus or elsewhere to secure it. The different parts of the cabin, the method of constructing it, and the dimensions are all developed in a class discussion. Then the various parts are assigned to the individual children, to one or two the making of the flooring, to several others the shingles for the roof, to another the door, to the remaining ones the sawing of the logs to length, and notching them with the chisel. Two children are chosen at each lesson to act as builders. When the building is finished several children fill in the "cracks" with clay, thus completing it. Sometimes several cabins are built by the class at the same time, and frequently one is left open on one side so that it can be furnished later.



Lobster Pot

Then the need of further means of protection from the attacks of the Indians is developed and a blockhouse or fort is built. This is worked out in much the same way as the log cabin and is built either by a group of children or by the entire class.

In connection with problems of securing food by means of fishing, hunting, and trapping, fish weirs, nets, and lobster pots are made, and several simple traps as the "box" and "dead fall" are set up in the sand table. Most of the other occupations dealt with are domestic and center about the home. Spinning, weaving, knitting, netting, quilting, embroidering, cooking, and soap and candle making are among those which suggest themselves, but there is not sufficient time to develop all in school. Weaving is usually selected as being typical, and as best carrying forward the industrial thought. In connection with the weaving, the children study about and experiment with processes of preparing and spinning such material as flax, or cotton, making constant comparisons with parallel processes in spinning with which they are already familiar. Their previous knowledge and experience of looms and weaving gained in the first and second grades, where they made a simple frame loom with string heddles, and wove rugs and mats for various uses, makes it possible to develop the principle of the continuous warp loom in this grade. This is approached by recalling or reviewing the work of the first and second grades, and the nature of the articles woven there. The limitations of such looms, and their inadequacy for supplying the wants of man as he became more civilized, are quickly seen. The question of the possibility of weaving a piece of cloth longer than the loom is considered, and ways of accomplishing it are suggested. The difficulties in handling the long length of thread, the time consumed, and the patience necessary, are all discussed, and are appreciated by the children. These facts invariably lead to the suggestion by the children that for such work looms must



Continuous warp loom
Rugs made by individual children

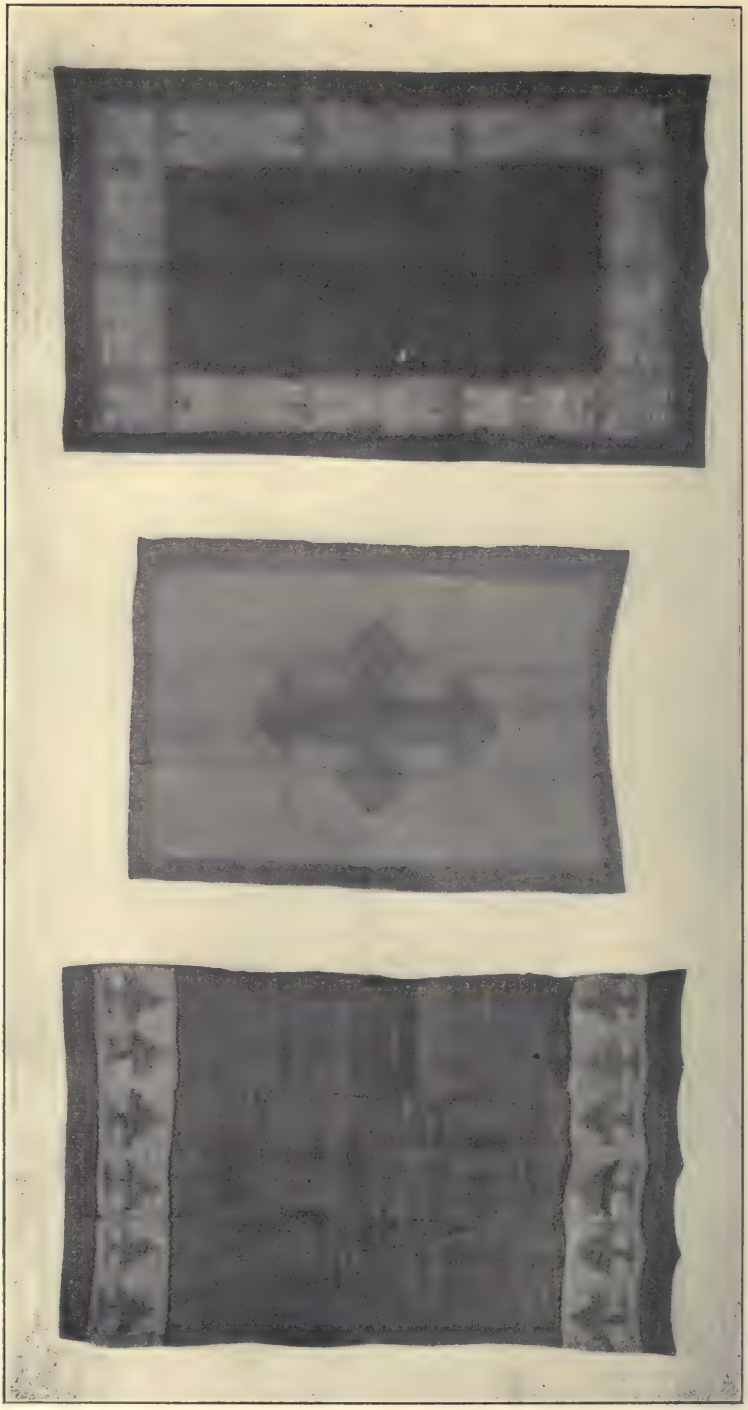
have been invented having an arrangement of rollers on which the warp could be wound when not in use and unwound as needed. The name "continuous warp" is then given them. To the question as to whether they can think of any way of adding rollers to the frame loom which would be simple enough for them to make, they have ready responses, from which we gradually evolve the loom shown in the illustration.

Problems of fastening the warp threads to the warp beam and holding the beams so as to keep them from turning are solved in a similar manner. No attempt is made to develop this form of heddle with the children, it being too much of a problem. Instead the heddle and its function in weaving is shown to them, but the way it performs that function is left to them to discover. In the weaving, different materials are used such as candle wicking, wool, jute, and rags. Sofa pillows, covers, rugs, table-scarfs and couch-covers are among the articles made. The children make band and spot designs for these in connection with their art work.

The large rugs shown in the illustration on the following page are class rugs woven last year. These were each made in small sections and sewed together to form a large rug. The rug with the border of trees is 3½ feet long and 2 feet wide, and is composed of 12 sections—6 center ones and 6 border ones. It represents the work of a group of twelve children. The small rugs shown with the loom were designed and woven by individual children in this grade.

The development from the hand loom to the foot loom is simple, and the children take the step readily. They have constant access to a small foot loom of the colonial type and each child has an opportunity to do some weaving on it. This concludes the children's actual experience with loom weaving in school, as it brings the subject to the time of the introduction of power. When possible a visit is made to a textile factory, and the children have an opportunity to see modern power looms in operation, and to gain some appreciation of the weaving industry as it is carried on at the present time.

L. H. W



Class Rugs

ART

GRADES IV AND V

The dependence of all the visual arts for their excellence upon certain simple harmonies, and the fact that these harmonies of space, mass, and color may be classified into simple exercises which call the creative power into use, make their study one specially adapted to the development of the child. Guided self-expression is as much the aim of the art course as it is of any other course in the curriculum, for it is only as the child expresses his judgment, whether it be in the form of his own creation or in the choice of the work of another, that we are able to distinguish any progress. In planning the art work for all the grades we endeavor to keep close to the fundamental principle that all rational instruction must be based upon the particular stage of

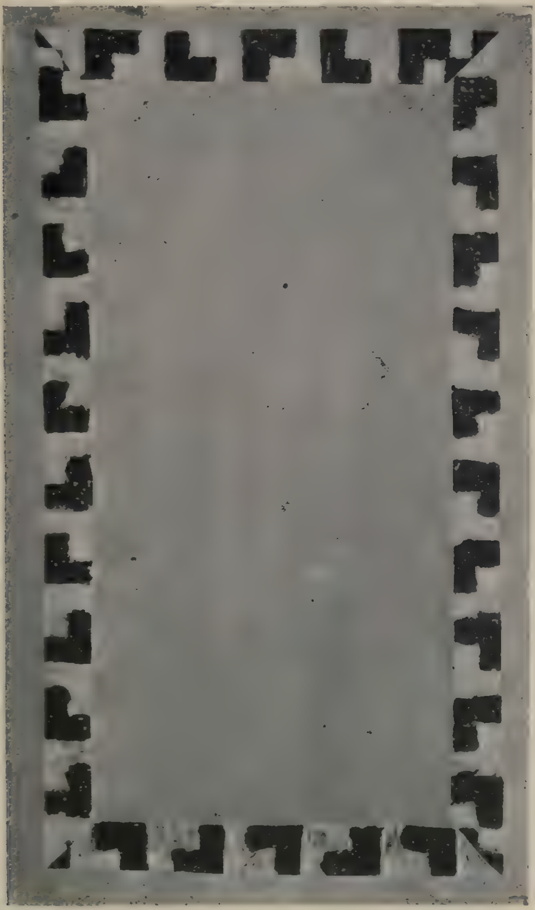
the child's development. Hence we consider, so far as we are able to judge, the child's capacity for an increased appreciation of spacing, massing, and coloring, and the fact that at this age he becomes more critical of results than at any previous time in his life, and that his power to execute does not equal his power to appreciate. Therefore the teacher in selecting a subject considers whether a satisfactory handling of that subject lies within the power of the child.

The work in the fourth grade, as planned this year, opens with nature drawing and painting. In this work two considerations are uppermost. First, the subjects selected are good in line, mass, and color; and, second, they furnish the opportunity necessary at the beginning of a year's work in art for handling the different tools of expression. For these two reasons we begin the work by directing attention to characteristic lines of stem, flower, and leaf; to the dark and light massing of flowers and leaves; and to the strong colors of autumn flowers and vegetables.

Design for book-cover border

Variations of Greek motifs for bowls

The child, having had three years' experience in selecting the size and shape of paper best suited to the proper placing of the subject, now notes the relation of spaces in the subject itself. For example, the problem of drawing the marigold is before the class. The first question to decide is, "Which is the most prominent part of the subject, the blossom, the stem, or the leaves?" The appreciation of the principle of principal and subordinate spaces, which the teacher has as her aim in presenting such a subject, will determine how many leaves it is necessary to draw in order to balance the blossom. It must be remembered that the teacher selects, and leads the child to select, as subjects only those things which embody some art principle. See illustration, p. 285.



Book-cover with border

Since good spacing is the foundation upon which we build our massing and coloring, the first lessons are chalk, charcoal, or pencil drawings of the subjects. It is here that emphasis is placed upon the characteristic lines of the subject. This is followed by massing either on the board, or with pencil, charcoal, or ink to show the relative values of the tones of the stems, blossoms, and leaves. Finally color schemes are made from the subject. If the colors are difficult ones to mix correctly, this lesson in matching the colors is given as a separate exercise, preceding the painting of the flower. The child at this age is able to handle combinations of three tones.

The manual training work furnishes splendid subjects for the working out of art principles. Throughout the year we find abundant opportunities for the application of our exercises in rhythm, subordination, proportion, symmetry, dark and light arrangement, and color. Designs for general outlines, borders, and all-over designs, whether for bowls, baskets, blankets, rugs, or book-covers, are excellent subjects for our purposes, for they all depend for their excellence upon the art principles before suggested. The child is led to see that until he has secured a satisfactory arrangement of spaces it is useless to plan the dark and light arrangement or the colors.

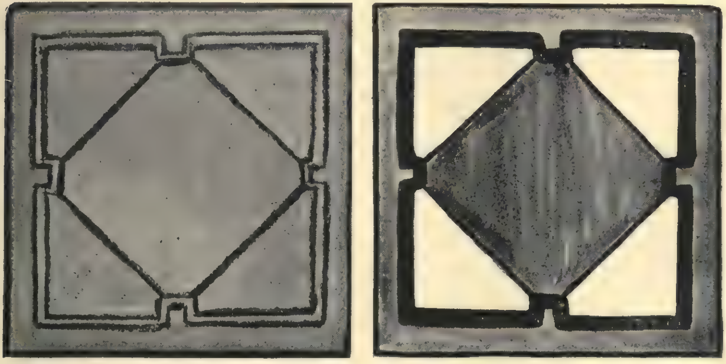
The problem of lettering is first thought of as a problem in space arrangement. The size of the space to be filled with letters having been determined, the next step is to decide upon the general proportions of the letters best suited to the space. The child experiments with charcoal to find whether square or tall letters best fill the space. When a decision has been made, the letters are drawn with the brush, using ink or paint. The design for a book-cover having been previously worked out as to massing, (see illustration, p. 287), the child next considers the color of the letters in relation to the tone of the paper and the tone of the border, if a border is used. The fact that the letters must be simple in line, good in proportion, and in massing and coloring must be such that they appear to belong to the space on which they are placed, makes the problem of lettering a valuable one from the artistic standpoint.

The use of illustration in the art course depends for its value upon a knowledge of spacing, massing, and coloring, and as such must be distinguished from mere story-telling. At various times during the year landscape composition, animal pose, and object drawing are used as subjects, and so used that they embody the principles of art. During the latter part of the year the child unconsciously applies his art principles to his illustrations.

Bearing in mind that art instruction in the schools has for its purpose an appreciation of harmony and not primarily the production of a work of art, we study not only good pictures, but also fine examples of architecture, sculpture, textiles, furniture, and pottery. These examples are brought to the attention of the child in connection with his simple exercises in order that art may become unconsciously a vital part of his life. The recognition of harmony in color, for instance, is not a thing that may be reasoned out or learned from books. It is an unconscious development brought about by a constant association with the best works in color.

Building upon the work in spacing, massing, and coloring of the four preceding years, the children in the fifth grade proceed from the breaking up into harmonious sizes and shapes of the space enclosed within the square to that enclosed within the rectangle; from massing in three tones to five tones; in dealing with color from dark and light to dark, medium, and light, and in hue from combinations of two colors to combinations of three.

One of the most successful problems of the year is the design for a tile which is to be made from clay, glazed, and fired under the direction of the manual-training teacher. The tile is a square, and since a square is the simplest space for children to handle, the problem in spacing the design is a suitable one with which to begin the design work. By examples and questions the



Charcoal sketch

Massing sketch

Design for tile

children are guided to observe the principle of principal and subordinate masses. A number of charcoal sketches are made. A choice of these furnishes opportunity for discussing why certain designs are fine and others commonplace. Massing the chosen design in as many arrangements of three and five tones as the child chooses, not only delights him because of his instinctive desire to find out what changes take place in the appearance of the design by a change in the amount of gray, black, or white used, but, what is more important, he sees and appreciates the fact that good spacing will not ensure good massing. A good design in spacing may be obscured by poor massing. When good massing is joined to fine spacing, the child is ready to consider color. The tones of color as well as the hue are considered.

From this problem dealing with the square, we advance to the same problem with the rectangle. This problem takes the form of a book-cover, or a portfolio, and is worked out just as the tile problem was. One additional element, that of lettering, enters here and is based upon the work done in the fourth year.

Bowl with Greek border

History awakens an interest in Greek and Roman art; therefore, it is here that we make a beginning of art history as well as strive to develop an appreciation of the art of these people. Any number of subjects are suggested by this fertile field. The study of pictures, architecture, sculpture, and vase forms is introduced in connection with the simple exercises of the class; for example, the beauty of the Parthenon can be more nearly appreciated after the class has been studying rhythm, the Moses of Michel Angelo after attempts at pose drawing, and so on. Nature drawing, object drawing, and pose drawing are used throughout the year as they offer opportunities for working out harmonies of space, mass, and color. In a still-life group, the teacher chooses the objects with regard to large and small masses, dark and light masses, harmonious colors, and elements of perspective involved. She first directs the attention to the placing of the group upon the paper. This outline drawing of the group is a lesson in line and is repeated until the children intelligently secure a good line quality. If necessary to hold the interest of the class, the objects are changed. The experience gained by criticising the drawings of the class at the close of each recitation is very valuable. The next step is a lesson on painting the spaces in black and as many tones of gray as are needed to enable the children to recognize and express relative values of color. Finally the attention is centred upon the difference in hue.

When the children leave the fifth-year art work they should understand the principles of repetition, subordination, symmetry, and proportion as related to spacing. In massing they should be able to handle combinations of three, four, and five tones, and in color to understand the difference between hue and dark and light.

E. M.

MUSIC

GRADES IV AND V

When we begin to teach the children to sing in their first school year our main object is to get them to enjoy it. We give them songs which they can understand and in which, as far as possible, the melodies express the sentiment of the words. The children soon learn to see the close connection between the words and the melody, and between the words and the rhythm. This helps them to sing with meaning and expression. From the very start we try to keep the children's singing simple and natural so that they talk their songs, but use their singing voices. They are often encouraged to sing their own thoughts instead of talking them, such as singing their "Good-morning" and "Good-bye," and some of their questions and answers. This practice of thought-singing develops in the second and third years into song-making. Instead of singing a question, answer, or short statement, the children make up couplets and try to sing them so that the rhythm and the melody will suit the meaning of the words. After a time, by frequently noticing the way the tunes of their sentence-songs and rote-songs go up and down and by sketching the tunes with dashes, they easily build the staff on which to put their own tunes so that they may be kept.

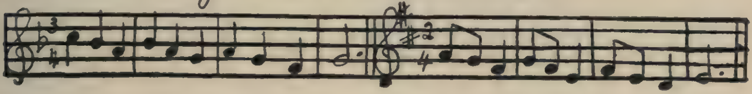
Parallel with this melody-picturing and staff-building goes the development of the rhythmical sense. The children in the first and second grades have a great deal of practice in clapping to their rote-songs and in swinging their hands to mark the pulses. After much practice in clapping and swinging to songs and Mother Goose rhymes they are able to make the circles and dashes upon the board. The next step is that of learning the values of notes to represent the circles and dashes. In order to write their sentence songs upon the staff, the children must understand the fixed pitch relationship of the lines and spaces of the staff, and the intervals of whole and half steps which they represent. This interesting investigation is carried on in the third year. With a knowledge of the pitch relationship of the staff and of note values, the children of the third grade are ready to write their own songs in regular musical form, and to sing simple exercises and songs from the board and from their music-readers. This briefly sketches the work of the first three school years. A more detailed account is found in the previous articles.

For three years the children have been working from the sound of a phrase to its representation in notation. With the fourth year the order is reversed, and they begin to work from the notation to the sound. Their three years' work has furnished them with a knowledge of musical notation sufficient to enable them to sing simple phrases after having studied the melody and its rhythm separately. Now we wish them to be able to combine at sight the melody and rhythm of a song, phrase by phrase.

As an aid towards combining rhythmic and pitch relationships we give such practice as the following:

(1) Supplying the rhythm to a given pitch outline.
(2) " " pitch " " rhythmic "
(3) Changing the pitch outline of a motive.
(4) " " rhythmic " " "

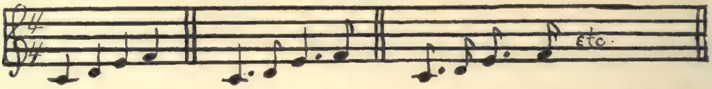
(1.) Pitch outline given = S, F, M, F, M. R, M, R, D, R -



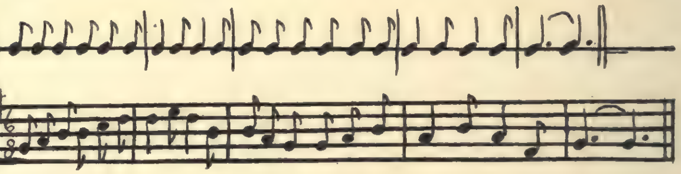
The scale ascending and descending may be taken as a pitch outline and may be varied so as to show the contrast between the whole pulse, the dotted whole pulse, and the dotted half pulse.

There are many devices for helping to gain speed in this phrase-reading. One is to have a staff upon the blackboard with a key and a time signature but no notes. The children watch very closely while a short phrase is being pointed in good rhythm upon the lines and spaces, and then sing the phrase from memory. The exercise is varied by writing a short phrase in notation upon the blackboard. The class is allowed a few seconds to look it through and then it is erased and sung from memory. Phrases are also written upon the board or upon a chart and screened from view. These are uncovered one at a time, covered again, [and sung from memory. Different keys are used in the sight-reading work, adding to those used in the previous grades the keys of D, D*b*, E, E*b*, A, A*b*. Simple phrases such as those in the illustrations are given the children to re-write in one or two different keys. They will find after singing an exercise in different keys that although the tune is the same, when sung in a higher or lower key, it has an entirely different effect.

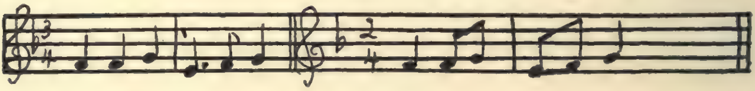
It is excellent practice for the children to write the notation for some of the easy phrases in their rote-songs. We tell them what key to use, and, if necessary, help them to decide what note



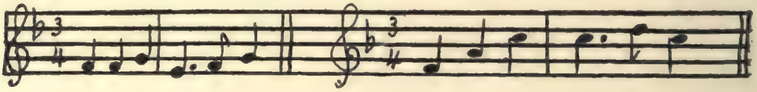
(2.)



(4.) Rhythmic outline changed.



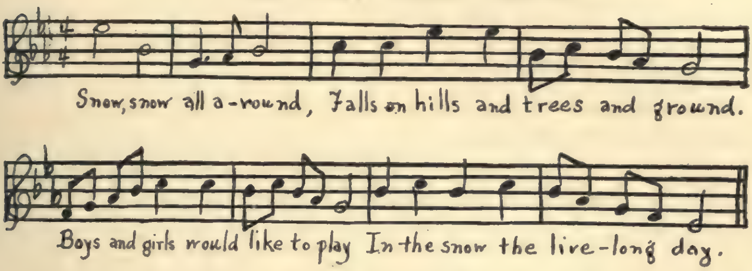
(3) My Country, 'Tis of Thee. Pitch outline changed.



the phrase begins on. If it is too difficult for them to write the tune and its rhythm at the same time, they first write just the heads of the notes on the staff to picture the pitch outline and then put in their values. They are also able with a little help to write the notation for their original songs.

The process of song-making is much the same as in the third grade, only the rhymes may be longer if desired, and an attempt is made to make the melody and the rhythm more closely express the thought or action of the words. The songs are made individually and by the class as a whole. When made by the class, of course each member has a chance to contribute lines to the verse or a phrase to the tune.

The First Snow-storm.


Snow, snow all a-round, Falls on hills and trees and ground.
Boys and girls would like to play In the snow the live-long day.

The song illustrated above was made by one division of the grade early in the year. The verse was made by one member of the class; the class as a whole decided what rhythm to use by swinging circles to the verse, and the tune was made phrase by phrase by different ones. The tune was started high because of the thought of the snow coming from the sky. After the song was completed, the children noticed that they had sung "hills" high; "trees" a little lower; and "ground" lower still. They tried to express the thought of girls and boys playing in the snow by using the quicker notes running up and down.

We still teach rote-songs, in the singing of which we require greater concentration upon the thought expressed. While the song is being learned, the meaning of the different phrases is discussed, and the children help to decide how the song should be sung so as to bring out the peculiar meaning of each phrase, By talking about the song in this way the children gain very similar ideas of its meaning, so that when they sing it together the expression is much more unified. Each one in the chorus must try to picture the song mentally while singing it, and then try to sing it so as to make pictures come into the minds of those who listen. Take as an example the song with the words by Frank Dempster Sherman:

> "At evening when I go to bed,
> I see the stars shine overhead,
> They are the little daisies white
> That dot the meadow of the night."

The picture that these words suggested to the children, and which they tried to suggest by their singing to their listeners, was dark and quiet with bright stars overhead. They imagined these stars were white daisies which a very graceful lady was picking. Then the picture changed and there were no more daisies in the field overhead, but down on the ground there was a field covered with them, which the fair lady had dropped from the sky. The class sang the whole song softly and smoothly, but made a slight change at the beginning of the third verse where it tells about arising in the morning. They tried to emphasize the important words that would help make the picture, such as evening, bed, and stars. The class was much amused when it was mentioned that the audience must be made to "see stars."

Each one in the chorus must be responsible for his share not only in concentrating upon the thought of the song, but in watching the chorus leader. Although in previous grades the children have been taught to work together, they are now even more impressed with the importance of every one's watching. The leader has a number of signals which the chorus understands, and by means of these he is able to keep the chorus together and to make each member do exactly what he wants at exactly the same instant, if they are all watching him. Careful watching and careful leading bring a unity into the chorus singing which gives satisfaction not only to the listeners, but to the chorus and its leader.

A clear, free tone is an essential of good chorus singing. One voice a little below pitch, or of a rough, strident quality, will spoil the good tone of a chorus. So special ear and voice training is given those whose voices are either unpleasant or not true to pitch. The tone-quality of a chorus as a whole can be improved by regularly imitating the leader in singing sustained tones on various pitches with different vowel sounds. Good standing or sitting positions are insisted upon during such practice and in all chorus drill. When standing to sing the children stand firmly on both feet with the body and head well erect, even though they are obliged to sing from books. When sitting they sit as far back as possible in the chairs with the trunk of the body erect, not leaning against the chair back, but inclined slightly forward from the hips. This position makes deeper breathing possible, and helps in strengthening the breath control.

One of the three twenty-minute lessons in each week is given to chorus singing with the two divisions of the grade combined. In order to leave the chorus lesson free for regular drill, about a third of the time must be taken from each of the two remaining periods for the actual learning of the rote-songs. Even this time can be made partly a practice time in sight-reading by giving the easiest phrases in the rote songs as exercises for the class to read by themselves. And yet the time that is left for the practice of technical difficulties to aid in sight-reading is very short. This means that regular and intense work must be done, and that as much as possible must be accomplished during the fourth year, because from now on the time allotted to music-study grows less and less.

The more practice in reading the children can have in their fourth year the better fitted they will be for their fifth year's work. They must be ready to begin singing two-part music. As a preparation for this, towards the end of the fourth year we teach canons or rounds. We teach a canon first as a one-part song to the whole chorus, and then divide the chorus into two divisions and later into three. This practice enables the children to carry a melody independently against another part.

In the chorus singing of the fifth year we pay special attention to tone-production and resonance. Up to this time the children have succeeded in singing a clear, smooth tone largely through imitating their leader and aided by their good sitting and standing positions, and by deep breathing. They have unconsciously formed some good vocal habits. Now they must be made conscious of how tone is produced and why certain things must be done in order to produce it well. As they grow older the majority of them will become somewhat self-conscious and will lack freedom in their movements. This is likely to have a bad effect upon their singing. This difficulty may be avoided by helping the children to understand a few principles of good tone-production and to work for freedom in all parts of the musical apparatus. As the musical apparatus includes practically the whole body, we first proceed to limber that up before singing and to keep it in good poise. This is done by giving the following exercises:

(1) The children stand in the aisles that each may have plenty of room. All stand easily erect, then bend the body

freely from the hips, relaxing the arms and hands. (2) Then they gradually raise the body to an erect position, still letting the arms hang limply. (3) The shoulders are made freer by working them forward, backward, upward, and downward, and by lifting and dropping them. (4) The rotary movement is applied to the head by letting it drop forward upon the chest and then rolling it around to the back and front again. When the head goes back the mouth must be allowed to open so as not to strain the chords of the throat and to keep the jaw muscles free.

The liberating exercises are followed by breathing exercises.

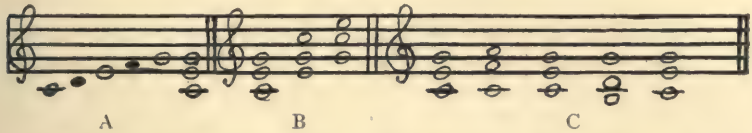
1. Inhale deeply. Retain breath for five or six seconds. Exhale quickly through the mouth.

2. Inhale quickly. Retain. Exhale very slowly by blowing the breath out.

The children are encouraged to find out how a few of the most common musical instruments are made, the shape of their resonance boxes and how the air is set to vibrating within them to make a tone. It interests them to find that their own bodies are wonderful musical instruments and that they must try to make their tones sing or vibrate inside themselves as the tone does inside the cello, for instance.

We give vocal exercises which help to make the quality of the voices more even, such as singing the vowels *ä*, *a*, *e*, *o* on a sustained tone, singing a single vowel sound, or the singing names to a simple pitch outline. In this practice attention is called to the fact that the vowel is the musical part of a word and should be sung very smoothly; that it is necessary also to make the consonants crisp and distinct in order to make the words clearly understood.

The technical practice continues the fourth year's study for speed and accuracy in reading by phrases. As an aid in their reading and in their part-singing, we acquaint the chorus with three important chords, the chords of *doh*, *fah*, and *soh*. By the following process the children build these chords: The chorus is divided into three choirs. They all sing *doh*, and the first choir sustains it while the second and third sing slowly up the scale until they find a tone which sounds well with *doh*. *Doh* and *re* sung together sound very unpleasant, but *doh* and *me* harmonize well. The first choir then sustain *doh* and the second *me*, while the third sing up the scale until they find a tone harmonizing with *doh* and *me*, which is *soh*.



The whole notes represent the tones which are found to sound well together, the filled-in notes those passed over. (See exercise A.) A comparison is made between the sound of the chord in this position and in other positions. When *doh* is the foundation tone the chord sounds firm and steady. *Doh* sung in the second position, with *me* at the base, adds sweetness to the effect of the chord. With *me* at the top, and *soh* at the base, the chord sounds much brighter. (See exercise B.) The *fah* and *soh* chords are built in the same way, working from the *doh* chord. After the chorus become sufficiently well acquainted with these chords to sing them in their different positions, they sing them in progression from dictation as a tuning-up exercise. (See exercise C.) The *doh* chord is called for with *doh* at the base. Then the three choirs are asked to sing the nearest tone in the *fah* chord and follow that with the *doh* chord and so on.

When the idea of major chords is established the transition to the minor mode is made. After singing the tonic chord *doh*, *me*, *soh*, *doh*, the pitch of *lah*, a minor third below, is given and the chord *lah*, *doh*, *me*, *lah* is sung. The class compares the characteristic difference between one group and the other, and, starting with the upper *lah*, sings down the tones of the natural minor scale. The tones used are exactly the same as in the major scale. The difference in feeling is caused by the emphasis placed upon different starting and closing tones which changes the order of the intervals. Thus the natural minor scale is but a different aspect of the same group of tones out of which the major is made and is represented by the same key signature.

The third step is to show that this minor feeling may be still further developed by changing the upward progression of the natural minor between the sound names of *me* and *lah* by sharping *fah* and *soh*. This gives the tone distances from *me* to *lah*, the same as the class is accustomed to singing from *doh* to *fah*. They are first sung this way and then their true scale names are given as *me*, *fe*, *se*, *lah*, the downward scale being sung as the natural minor. This gives the melodic form of the minor.

The fourth step is to show that instead of changing *fah* to *fe*, it can be sung as in the natural minor and the skip made to *se* directly, singing in this case the same both ascending and descending. This skip is easily attained by singing *me*, *fah*, *me* and *lah*, *se*, *lah*, until *fah* and *se* are thoroughly in mind; then the group *me*, *fah*, *se*, *lah* is easily sung. Thus the harmonic form of the minor is taught.

The purpose of this work in minor is to make clear to the children that many of the so-called accidentals that appear in the pieces they sing are but transitions to the minor and can be easily sung, if the nature of the transition is thoroughly understood.

While the above description covers the technical work of these grades, that work in itself is not the aim of the instruction in music, but it is a means for getting musical results in a more intelligent way from the pupils. The pupils feel the necessity for practicing the technical points, because of the close connection kept between the technique and the end it serves in expressive singing.

H. L.

PHYSICAL EDUCATION

GRADES IV AND V

In this short sketch we will attempt to give only two illustrations of the work in the gymnasium with the fourth and fifth grades, but with these illustrations we will suggest the change in viewpoint of the work as a whole.

A relay-race is one of the fourth grade games. Four equal divisions of the class are made, and the lines form at one end of the room. In front of each line and about fifteen feet distant a goal is set up. The goal—either a stool or an Indian club—is placed on the floor so that in the race the runner may go around it. At a signal the first four in the lines run (or walk) across the floor, around the goal, and back to the starting line. The next four run in the same manner. After all the children have tried the race, the winners of each four may race together

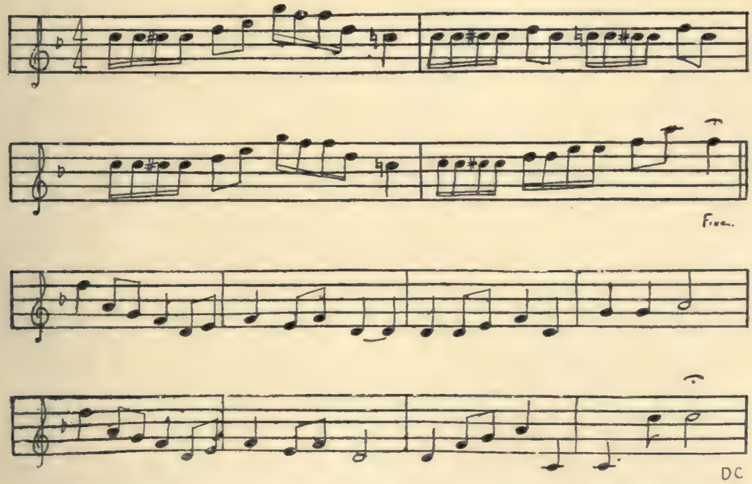
While any four children are running the others watch to see what points they can get which will help them in the race. Those who are to run try to profit by the experience of the racers who have preceded them. While winning the race is the objective point to the child, the real value of the game to him is in his finding why he succeeds or fails. The competition is only the measure by which he finds the problem. It is the means through which he perceives that different results are obtained by different actions. The ability to adjust himself, by making the coördinations which he sees are necessary to meet the required conditions, is the vital point of the game.

When the children become conscious of the problem, and show a certain degree of skill in meeting it, we begin to study how we can join the forces and, by coöperating, work, not individual against individual, but side against side. There are many new questions now, for we attempt to find how two or more people can, by working together, attain a given end more easily than when they work alone. The children very quickly see that if one runner forgets his place in the line and gets in the path of the next one, in order to gain an advantage for himself, he may cause his side to lose the race. While coöperation makes the effort less for the individual, it makes the problem of coördination much harder. The child finds that he must act in relation to the others on his side, as well as in relation to the goal. The children work out for themselves the rules of the game. These represent the conditions which make the problem the same for all, and give a basis for judging the results. In this way it is possible for one to learn from the efforts of others.

In order that the child may carry over the knowledge and interest from the problem on which he has worked, one game is developed from another. The new problem always requires more ability than the previous one called forth. In working in this manner, the children soon realize that one individual gains an advantage over the others because he is able to make the motor adjustments more easily and more quickly. They see, for instance, that the starting position is important; that some children, when running, use their arms to better advantage than others; and that the power to keep up speed, when going around the goal, requires great accuracy of eye and control of the acting muscles.

It is such points as these that give the basis for the technical side of the work. The gymnastic program is developed from the games and the other motor work of the school. We arrange our gymnastics, to a considerable extent, in accord with the conventional program: but when the psychological factors require it, we vary from the accustomed order and method of presentation. What we desire is not merely the anatomical progression in movement, but the development of motor efficiency in order that the child may carry out the ideas on which he is at work. What the child must do is to connect his motor technique with the ideas he is endeavoring to express in action if he is to have genuine interest in his technical training. In so relating the factors we get a degree of interest in the gymnastics that is vital and deep-seated. The gymnastics become worth while as the means to the end for which the child is striving. We have suggested the motor work in the school with which we connect the technique. The manual training offers great opportunity. We consider the making of a loom, for instance, a more highly developed problem of skill than the relay race, and there is with it a finer degree of coördination required in the technique.

The attainment of skill in the games and in the various occupations represents one part of our work. Another phase is the development of the dance-drama. The dance underlies the arts of music and poetry, differing from them in degree, rather than in character of expression. It has the same relation to the technical training as the games of skill and the occupations, and is, in like manner, made the basis of the motor technique. We study the historical dances which are related to the life in the school, and the children construct their own dances when any subject of their study is so vital to them that they wish to tell a story in pantomimic action.



The story of Proserpina has been studied by the fifth grade. The children understood and interpreted it as a drama of summer and winter. They realized that the joy of the summer with its flowers and fruit, the sorrow caused by the stealing of Proserpina by Pluto, and the joyful return of Proserpina to the earth, were not things that happened only in the far-off past, but stand for the very pith of our own joy and sorrow in the change of season. They, too, love the flowers of summer. They are sad when winter drives them away, and they welcome the first blossoms of spring with the greatest glee. The children have told the story of their own experience in a dance-drama, and, in the telling, have found anew the significance of the story told so long ago. They chose the flower for the symbol in the pantomime because it seemed to them more significant than any other, and danced the story in this form.

1. Summer's presence, gladly and gayly gathering the flowers.
2. Summer's departure, sadly and mournfully searching for the flowers.
3. Spring's return, finding the first flower with the joy and hope of its promise.

This music (see cut, p. 303) was worked out with the class by the accompanist.

At the beginning of the fifth grade the boys and girls carry on their gymnasium work in separate classes, the boys under a man, and the girls under a woman. The work of the fifth grade described above applies only to the girls.

C. C.
E. R. F.

TIME SCHEDULE

GRADE IV

Number of minutes per week devoted to the various activities:

Reading and Literature	150
Language Composition Spelling	110
Penmanship	75
Arithmetic	150
Geography Nature Study History	150
Manual Training	85
Art	70
Music	60
Physical Education	80
Recess	75
Opening Exercises	75

Cast of "The Minotaur," an original play by children of the fifth grade. See pages 309 and 312.

LITERATURE AND READING

Grade V

When children reach the fifth grade of school the mechanical difficulties in reading give them but little trouble. They have read with pleasure such books as Kingsley's *Water Babies*, and Ruskin's *King of the Golden River*. Because good literature has been given them both in school and at home a taste for good reading has already been formed to some extent. They have some knowledge of poetry through selections read and memorized in preceding years. Added to this equipment is a lively interest in stories of adventure, in the wonderful achievements of the old gods and heroes, and a keen enjoyment and appreciation of the courage, bravery, and strength which their favorite heroes display.

Hawthorne's *Tanglewood Tales* and the *Wonder Book* are given the first place of all the prose selections chosen for this year's study. The principal reason for this choice is that these stories represent the best in literature and are within the appreciation and comprehension of the children. Then, too, the adventures of Jason in his search for the Golden Fleece, of Theseus in his wonderful victory over the Minotaur are intensely interesting to our little hero worshippers. In this school year the children study Greek history, which is another reason for selecting these tales, although in choosing our literature we do not consider correlation of the first importance. Another advantage of these stories is that many of them furnish excellent material for dramatizing.

The children are eager also for stories of real life and Heidi, the little Swiss girl whose experiences in town and country are so well told in Johanna Spyri's *Heidi*, is thoroughly enjoyed. Heidi is followed with much pleasure in her wanderings over the Alm with Peter and the goats, and altogether this story makes life in Switzerland much more real. For dramatizing, too, many parts are well adapted.

Portions of *Ulysses among the Phæacians* are somtimes read, using either the Bryant or Palmer translation. This has seemed too difficult for some classes, but other classes have been able to read selections with pleasure and profit. Lamb's *Story of Ulysses* is read in the third grade and often the children delight to recall and re-read the experiences of the "crafty Ulysses" in his endeavors to reach his home.

A number of poems are also read during the year. Each child owns a copy of *Poems Every Child Should Know*, compiled by Mary E. Burt, and several selections are chosen from this for class study. Some of the favorites are "Abou Ben Adhem," "Lucy Gray," " How They Brought the Good News from Ghent to Aix," and "Charge of the Light Brigade." The stirring rhythm, the courage, and patriotism brought out in the last two named are much enjoyed. In addition to the poems used for class study each pupil is asked to read for himself. Frequent reports are made on this reading and favorite passages read or recited before the class.

Beside the reading which the children do for themselves the teacher not infrequently reads to the class a single paragraph, a poem, or perhaps a long story. This reading may be something suggested by the school work, or it may be the teacher's way of interesting the class in some particular poem or story. Often the reading is done for the pure enjoyment teacher and pupil will have from reading a good thing together. Howard Pyle's *Wonder Clock* has been a favorite with several classes.

Necessarily the method of treatment must vary with the different selections. First of all the teacher attempts to catch the spirit of the author. She wants to be able to enjoy the literature with the children.

In beginning a story or a poem there is sufficient introduction to give the setting and arouse curiosity and interest. This is sometimes done through discussion, though more often the atmosphere is given by the teacher in a few words. If there is too much introduction, if things are told which could better be found out in the reading, the story is sure to suffer. *Tanglewood Tales* and the *Wonder Book* are approached through the Greek history. Places mentioned are located on the map. Names of characters are written on the blackboard, or their pronunciation found in the vocabulary. We try to recall enough from our study of the early Greeks to get the atmosphere we need. Then we are ready for the story. For the first two or three lessons the children read at sight, or if interest lags or the language proves too difficult, the teacher reads. Interest must not be lost and the story must move. Later on much of the reading is done outside of class time, and selections only are read during the lesson period. After the first lesson or two on a story, a few minutes are spent at the beginning of each period discussing briefly what has already been read, reproducing portions of the story, or selecting the main points. If the children do most of the actual reading at home, much of the class period is used for this work. We believe, however, that throughout this school year a large part of the time allotted to literature in our programs should be used for reading aloud. This daily study of the finest English we can give the children enlarges their vocabularies and is the best kind of training for a correct and pleasing style of their own. Then, too, they need the practice in reading for its own sake.

In the first Hawthorne stories which are read the children often have trouble with the pronunciation or meaning of new words. Little time is taken from the lesson to teach these words, however; the correct pronunciation or definition is given by some pupil or by the teacher, in order that the thread of the story shall not be broken, and the reading goes on. Many of these words are later studied in the language or spelling lesson where the diacritical marks and the use of the dictionary are taught. The dictionary is used to some extent, however, when the children are asked to read in preparation for the literature lesson.

To help them to a clearer understanding of the story, and to teach them appreciation of good English, questions are asked as the reading goes on. These questions are few in number but should require thoughtful answers. After reading a certain part of the "Three Golden Apples" these questions were asked by the teacher: "Describe the cup which Hercules saw coming toward him over the billows. With what is it compared? Why? How does Hawthorne give you an idea of the size of the 'intolerably big giant,' Antæus? How did Hercules know that the giant had been standing there a long time?"

In almost every story there are paragraphs which the teacher reads. Much is lost if the children are allowed to blunder through fine passages which the teacher's rendering will make clear to all. If there is dialogue, characters are assigned and the impersonators stand before the class and read each his own part. Better expression is gained by this method, and the way is prepared for dramatizing, which is often used as a means of review.

Not all the stories are studied with the same amount of thoroughness. Some are simply tasted. The teacher may have a "definitely indefinite aim," to quote Mr. Percival Chubb, and the intelligent reading of the story is all she wishes. Other selections are reviewed with a good deal of care and in different ways to bring out the points which the teacher wishes to emphasize. Sometimes the children tell the story from an outline which was made through class discussion, or by an individual. "The Dragon's Teeth" has been successfully reviewed in this way. Again characters may be discussed, good and bad qualities mentioned, and these reinforced by quotations from the text. One story is sometimes compared with another where points of similarity or contrast exist which the children will understand. Often the entire story or certain portions are dramatized, and acted without scenery and without costumes in the classroom. Last year "The Minotaur" was given with costume and scenery. It was dramatized by two members of the class after it had been studied in the classroom. (See p. 305.)

We never intend to keep the children so long on one story that they lose interest, although we may not have accomplished all that we had first intended. The ethics of the story are not neglected, but we try to avoid moralizing.

Poems are presented to the class as wholes. There is some preliminary talk, if necessary, to get the proper background, but the poet is allowed to tell his own story. Often it is best for the teacher to read the entire poem to the class, then, after a few questions or explanations, it may be read by the children, though there may be passages even in the second reading which the teacher again interprets. It is easy to spoil a selection by too many questions. The poet's impression should be the one left with the child without having him tell what that impression is.

In addition to the poems selected for class study the children are asked to read for themselves in Burt's *Poems Every Child Should Know*, and be prepared to read some selection to the class. A half hour is frequently devoted to this kind of work. They are also asked to memorize selections of their own choice beside those learned by the entire class. One period each week is devoted to the recitation of memory selections. We try to have quotations learned in previous years recited often enough to keep them in mind. The children especially delight in repeating the passages learned from *Alice in Wonderland* in the third grade.

The year's work in reading and literature can be briefly summarized. We aim to give the children good literature which shall interest them, which shall present high ideals of courage, strength, and perseverance, and which shall be models of good English usage. In the teaching we try to keep alive the love for good books by moving rapidly enough to suit our impatient little readers who are always anxious to know what comes next, and at the same time to make a simple study of scenes, characters, and the development of the story, and to give a good deal of practice in story-telling. We try also to add some things worth while in the poems memorized.

M. G. P.

LANGUAGE

GRADE V

Oral Language. In nearly all the subjects taught in the fifth grade ample opportunity is given for oral expression. In the reading and literature there is frequent demand for the narration of incidents and the description of characters and places. History also affords opportunity for narration, not only the simple time sequence, but also that which leads to a climax. Mathematics calls for explanation and conciseness of statement. Nature-study requires exactness in reporting observations of birds and of trees. Geography abounds in opportunities for description.

As clear expression is dependent upon clear thinking we say little about the language during a recitation, but try to make the subject clear. We do this by askng questions which require thought and careful arrangement; by choosing the essentials in the selections read from history, geography, and other studies, and by making summaries of topics.

There is some oral language work, however, which is independent of other school subjects. Every two or three weeks we have a half hour devoted to story-telling. In this period the children tell to the class stories which they have selected and studied at home. These are often given with enthusiasm and expression; frequently the author's language is reproduced. This has proved to be both a popular and a profitable exercise. In this exercise better results have been gained by speaking of the good points and choosing the best stories than by criticising the poor work. The children can be led to imitate without losing enthusiasm and interest, while adverse criticism of their oral expression often makes them self-conscious and discouraged.

In all the oral work we make rapid corrections in language when necessary, giving the word for which the child is hesitating, supplying synonyms to avoid repetition, and using some simple device to get rid of the ever recurring *and*, *but*, *so*, and *then*. If the sentences are poorly worded, we either give the correct form or ask the children to try again after thinking through just what they wish to say. We also encourage and commend the use of new words, and insist, as far as possible, on clear and connected statements. We make much of the good English used, and often analyze it in a simple way.

To keep the interest in the different subjects the work must move with some rapidity. Therefore, the problem seems to be to work rapidly enough to hold this interest, and at the same time make distinct gains in oral expression.

Written Language. Composition. Since so much oral expression is required in the different subjects, the language period is largely devoted to written work which may or may not require oral preparation. The composition subjects are largely taken from other studies. One reason for this is that better results are obtained if written work is preceded by oral. Then, too, interest in the subject has already been aroused, which is a saving of time and also produces better results. A third reason is that the composition gives each child an opportunity to show what he has gained from a given subject and from the teacher. The teacher also has the opportunity to help individuals, as well as to test her own instruction. If the children are familiar with the subject matter and are interested in it, they will unconsciously use better English, and will also be able to give some definite attention to the form of expression.

Some of the subjects which have been taken from history and geography are The Battle of Marathon, Spartan Training, Thermopylæ, Alexander, A Visit to a Russian Village, A Boat Ride through Holland. Reproductions of parts of *The Tanglewood Tales* or studies of such characters as Jason and Theseus have proved of interest and value. In these the children often show that they have gained many new words and expressions. The dramatizing of these stories in whole or in part has been a feature of the English work. Last year *The Minotaur* was dramatized by a group of children, and the play was given with scenery and costumes. The arrangement in acts and scenes was almost entirely the children's work. In deciding upon and obtaining costumes and scenery they were helped by the teacher and other friends. Even in this the children did a great deal by hunting up illustrations showing Greek costumes, and by making numerous visits to the Art Museums. The following is an extract from the play: (See p. 305.)

ACT I.—SCENE 1

Place—Trozene, Argolis. In the woods.

Characters—Æthra (Theseus' mother), Theseus.

Curtain rises and shows Æthra and Theseus seated on a large stone.

Theseus "Oh, mother, you tell me my father is a great king, why do I never see him?"

Æthra "Indeed, he is a king, a good and noble king, my dear son; but a monarch has his people to care for, and he cannot spare time for his little boy nor for his wife."

Theseus "But, mother, where is my father, and why are we staying here with grandfather in Argos?"

Æthra "Your father is the great king Ægeus who rules over Attica, and we are here because your father lived here before he was called to Attica."

Theseus "Well, mother, then cannot I go to Attica and see him? Oh! I so long to see my father!"

Æthra "Your father dwells in the famous City of Athens, and you are too small to take such a journey."

Theseus "But I am growing fast, mother. Grandfather keeps my measure on the door in the Throne Room at the Royal Palace. Do come and look at it, mother, and see how fast I grow."

Æthra "Not now, my son, but I will look at it sometime. You need to grow strong as well as tall, for it requires strength for such a long journey."

Theseus "Oh, how soon do you think I shall be strong enough?"

Æthra "Why, you are only a little boy. See if you can lift this rock on which we are sitting."

(*Theseus vainly tries to lift rock.*)

Æthra "You see how it is, my Theseus, you need far more strength before you can go to Athens and tell King Ægeus that you are his son, for on the way you will meet with many dangers."

Theseus "Oh, mother, how shall I know when I have this great strength?"

Æthra "When you can lift this large stone. *Then* and not *till then* can you venture on this journey."

Theseus "And if I do lift the stone will you give me permission to go?"

Æthra "Yes, when you have accomplished this and can show me what is hidden beneath it, I promise to let you go."

Theseus "Something hidden beneath it! What can it be? I will try again and struggle till I succeed."

Æthra "Do not worry yourself about it now, for you are young, and I do not want you to leave me for many years to come, oh my Theseus."

Theseus "*Dear mother*, I do not wish to leave you, but I long so to see my father! How can I get strong quickly?"

Æthra "You must take good care of your body, and we will come here every day so you may practice. If you are patient and good, the great and good Zeus will give you your strength, my son. Be patient!"

Many chapters from *Heidi* have been dramatized and given in the classroom without scenery and without costume. Accounts of class or group excursions for the study of trees and birds are occasionally used as composition subjects. Two excursions to the Metropolitan Museum, one to study the Acropolis and the Parthenon, the other to study the Pantheon, the old Roman chariot and other objects of interest, have furnished excellent material for composition work. During the year the children study a few pictures. They are sometimes asked to write a description of a picture or tell a story which it suggests.

Our elementary school paper, *School Days*, is published every month of the school year. This gives the children an incentive to write of individual experiences, to produce imaginary stories, and to try their hand at verse-making. One of the accepted contributions is given below.

WINTER

When the snow falls from the leaden sky
  And covers the woods and the hill,

When the brook that used to run merrily by
  Is silent, frozen, and still,
Those are the days that the children love
  For then they can skating go
And coasting down the long smooth hill
  Or play in the soft, white snow.
No gentle breeze that in summer blows
  Is half so dear to me
As the hoarse, bluff voice of the winter wind
  As it calls to us in glee.
And children's voices answer
  In joy to the wind's glad call
And a happy day in the children's hearts
  Is the day of the first snowfall.

Titles of other contributions that appeared in the school magazine are "A Christmas in Germany," "The Snowman," "Enid and the Witch," "Discovery of the Hudson River," "Avalon by the Sea."

Unless the subject-matter is fresh in the minds of the children, it is necessary to spend some time in oral preparation for the written work. If the children are to do their best, they must know definitely what is required and enter on their task with a certain amount of enthusiasm. Just how much preparatory work is necessary is often a difficult question to decide. It depends very much on the knowledge of and interest in the subject, the attitude of the children at the particular hour, and the attitude of the teacher. There are always children in every class who are more quickly interested than others and who seem almost at a glance to understand what is required. The influence of their enthusiasm and knowledge, both of which become apparent in this preliminary work, is of the greatest value to the slower children.

An outline is usually given the class to guide them in the arrangement of topics. This outline is sometimes given by the teacher, sometimes it is the result of class discussion. As a rule it is placed on the blackboard for reference. Later in the year each child is often asked to make his own outline. However the outline is made it should be a simple one, rarely of more than three or four topics, including the introduction and conclusion.

Most of the compositions are short. We do not secure brevity by limiting the children to so many words or pages, but by using simple outlines, limiting the subject, and by having the class write on certain selected topics from a longer outline. Assigning the different topics in an outline to special groups has proved to be an interesting and profitable exercise in composition.

The actual writing is done either in the classroom, or at home as a part of the regular home study required. Often a subject is assigned and the children are asked to make home preparation for the writing by taking notes, reading certain references, or by making an outline. Then the writing is done in the classroom. Sometimes the preparation is made in the classroom, and the writing is done at home, and frequently both preparation and writing make a single class exercise. The compositions when finished are read aloud to the class in whole or in part, either by the teacher or the children. This part of the work is much enjoyed by all. After a composition has been read, the author is given the opportunity to make the first comment on his own work. Then the other children are asked to criticise the paper as to interest, the beginning (is it a good introduction?), the ending (does it round out the topic?), the repetition of words and phrases, clearness of statement, and adherence to facts. We insist, as far as possible, on constructive criticism, and commend the good points in each paper. Much better results are gained in written English, as well as in oral, by commending the good most generously instead of making defects the burden of the criticisms.

The criticisms of the children and the teacher are noted in writing by the authors, who are now asked to correct and improve their own work. The papers which have not been read and criticised by the children are looked over by the teacher, who indicates in red ink the changes to be made. In making these corrections and improvements the pupils are asked sometimes to re-write the entire paper, sometimes simply the parts which are to be changed. Excellent results have been obtained by returning compositions for correction a month or more after they were written.

The children are not asked to correct all their compositions. Often the papers are read by the teacher, the common errors noted and made the subject of the next language lesson. In these lessons spelling, punctuation, use of capitals, etc., receive attention. The aim in this work is to teach the children to apply their knowledge of punctuation, and of capitals, and to make them critical of their own writing. Considerable attention is given to the form of the composition. There must be margins at the left side and at the bottom of the paper, paragraphs must be indented, and the penmanship must be the best which the children can produce with a reasonable degree of speed.

Another form of composition work which is used throughout the year is letter writing. The form of the social letter has been taught in previous grades. The arrangement and punctuation of the heading, etc., still require a great deal of drill. Most of the letters written are to real persons—members of the family away from home, school friends, or classmates absent from school. The imaginary letter is occasionally asked for. Heidi writing to Klara from her mountain home has been a favorite subject. The business letter, too, receives a good deal of attention. Last year each child wrote a letter to some business firm which required a reply. This proved very interesting and the results were excellent.

The punctuation needed in the written work largely determines the points to be taught and the drill required. The rules taught in previous years need to be kept in constant review. The new rules given are: the use of the comma after yes and no, after persons addressed, in series, and in quotations. For statements of these rules the children are referred to Buehler and Hotchkiss's *Modern English Lessons*, which also contains many exercises for punctuation.

Dictation and Spelling. In this grade a prominent place is given to dictation. For this work short fables are used, poems, words of songs, short quotations from prose and poetry, selections from geography, history, and other school subjects. Sometimes the selection is read, perhaps studied by the children. Difficult words are pointed out by the teacher or written on the blackboard and divided into syllables. Children may be asked to observe the spelling of certain words, then close their books and write these words on the blackboard or on paper. Pronunciation is studied by using the dictionary. Punctuation is noticed and explained when necessary. Then books are closed and sentences are dictated. Often a selection is assigned for home study and dictated to the class as a spelling exercise, or it may be given for home study and written from memory. We use this method often in learning the words of songs.

For formal spelling lessons, we take words from the different school subjects, abbreviations frequently used in arithmetic and geography, proper names, and words misspelled in the written work of the class, and use also lists from the *Rational Spelling Book, Part II*, which contains the common synonyms and homonyms.

Poor enunciation and slovenly pronunciation are sometimes the cause of poor spelling. To remedy this, in assigning the lesson we make sure that children are able to pronounce all the words, frequently have words divided into syllables, and give some drill with special reference to clear enunciation. The dictionary is used in connection with this exercise, not only to teach the children the correct pronunciation and meaning of words, but also to give instruction and drill in its use.

Oral spelling usually precedes the written work. In the written spelling the words may be arranged in columns, perhaps divided into syllables; more often they are written in sentences, either dictated by the teacher or original with each child. It has been found helpful to have each child keep a list of his own misspelled words on which he is examined frequently. Spelling matches have been found to be stimulating and to give an excellent review.

Grammar. Scarcely a beginning is made in the study of grammar. That part of the English work is left for the sixth and seventh grades. The recognition of the sentence is dwelt upon until the children grasp the idea that a group of words is not a sentence unless it expresses a complete thought. Then the different kinds of sentences are taught.

The language work of the fifth grade is an attempt to give the children the drill they need in language forms, to improve oral and written expression, and to teach them how to criticise and improve their own work.

M. G. P.

ARITHMETIC

GRADE V

In its power to sustain interest the arithmetic of the fifth grade may properly be placed with geography, history, or nature-study. The children come from the fourth grade with a good working knowledge of whole numbers. By a working knowledge is meant that they can read and write numbers up to billions, that they know the multiplication tables, and can add, subtract, multiply, and divide. In the fifth grade they use fractions and decimals.

The outline of the work is as follows:

Special work: Common and decimal fractions.

1. *Counting.* By 7's, 9's, 12's, etc., as a rapid review of addition and multiplication.

2. *Integers.* Oral: Rapid drill in review of the four operations. Written: Abstract and concrete problems involving the four operations. Emphasis upon proof of work, upon accuracy and rapidity.

3. *Common fractions.* Fractions classified and terms defined. Oral: Special attention to business fractions. Written: Addition, subtraction, multiplication, and division of easy fractions. Least common multiple developed and applied in addition and subtraction of fractions. Cancellation developed and applied in multiplication and division of fractions.

4. *Decimal Fractions.* Principles of decimal notation developed from the writing of U. S. money. Relation to common fractions emphasized. Oral: Reading of decimal fractions. Reduction of simple decimals to common fractions. Written: Addition, subtraction, and multiplication of decimals. Special emphasis upon decimal equivalents of the business fractions.

5. *Problems.* Concrete problems in all work of the grade. Problems may involve more than one operation. Information groups of problems.

Smith's *Grammar School Arithmetic* is used, and is followed so far as method is concerned. Young and Jackson's *Arithmetics* are used for supplementary work.

Long division being taught late in the fourth grade, and being a comparatively difficult matter with little children, needs a good deal of attention in the early weeks of the fifth year. It must be recalled step by step after the long summer holiday, and much practice must be given before the children become proficient in its use.

The essential processes which form the work of the first four years are quite as important in the fifth and, through all the development of new work, they are kept in mind by vigorous abstract drill. This drill forms a vital part of every lesson. Sometimes it is counting by 3's, 4's, 7's, or 10's up to 100's. This reviews the multiplication tables very effectively in a relatively short time. Sometimes the drill takes the form of a rapid succession of abstract problems in addition, subtraction, multiplication, or division as

$$7+9, 8+7, 15-7, 6\times9, 7\times8, 72\div8.$$

In a five-minute exercise every child has an opportunity to recite several times and if no pupil has failed during that time, the children often clap their hands with delight and satisfaction.

Sometimes problems in addition are given, as $7+8+9+7+4$; or those involving both addition and subtraction, as $9+8-9-2=?$ A problem using addition, subtraction, multiplication, and division occasionally shows just how far the drill has been successful, and how much more is needed. Five minutes' drill of this kind tends to make the work accurate and is one of the most interesting periods in the school day. The children realize that facility in the handling of abstract numbers is of practical value, and they take great satisfaction in feeling sure of themselves.

The review is not all abstract. Much attention is given to the solving of concrete problems involving addition, subtraction, multiplication, and division. The text-book supplies problems that are interesting from a practical standpoint. They are related to other studies of the curriculum and give much valuable information.

While work in common fractions is not entirely new in the fifth year, the ideas of fractional value formed in the lower grades have to be recalled and made clear in much the same way as they were first presented. Objective work is done early in the year, and indeed at any time when it may be necessary, but we try in the fifth year to get an understanding of fractional values apart from objects. We use a variety of means to show objectively the relations of fractions to whole numbers and to each other: one-inch cubes, rectangles drawn on the board and printed in the text-book, lines drawn, or paper folded. With lines like the following (Diagram I) the children show that $\frac{1}{2}$ is $\frac{2}{4}$

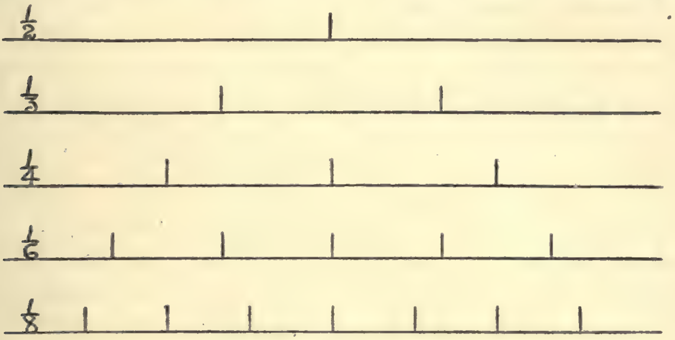


Diagram I

and $\frac{4}{8}$ and that $\frac{1}{3}$ is $\frac{2}{6}$. They draw diagrams to prove that $\frac{1}{3}$ is $\frac{3}{9}$; $\frac{2}{3}$ is $\frac{6}{9}$; $\frac{1}{2}$ is $\frac{3}{6}$ or $\frac{6}{12}$. Then they discover the principle of reducing to lowest terms and learn the abstract process.

In diagrams, such as No. II, they show $\frac{5}{4}$, $\frac{6}{4}$, $\frac{8}{4}$, $1\frac{3}{4}$, $2\frac{3}{4}$, and learn the process of reducing integers to fractions, and improper fractions to integers or mixed numbers. They

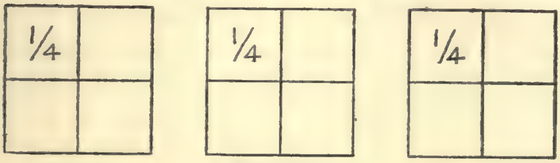


Diagram II

divide each of the 4ths into three equal parts and find that they have 12ths. Dividing each of the 6ths into three equal parts shows that $\frac{1}{3}$ of $\frac{1}{6}$ is $\frac{1}{18}$. In the first diagram they show

$\frac{1}{2}$ of $\frac{1}{3}$
$\frac{1}{2}$ of $\frac{1}{2}$
$\frac{1}{4}$ of $\frac{1}{2}$
$\frac{1}{2}$ of $\frac{1}{4}$

which readily introduces the principle of multiplication of fractions. With multiplication we use cancellation. In the addition and subtraction of fractions we work with factors and multiples, but the objective work is kept in advance of the process. When the children make drawings to show that $\frac{1}{2}$ and $\frac{1}{3}$ is $\frac{5}{6}$, and $\frac{1}{2} + \frac{1}{4} = \frac{3}{4}$, they see the need of a common denominator. Emphasis is laid upon finding this common denominator by inspection. Later on the process of finding the common denominator by means of the least common multiple is taught. Then the addition and subtraction of fractions is simple; and after reduction to a common denominator is clear the rest of the work is as easy as with integers. In all of the preceding the way has been made for division of fractions—$\frac{1}{2}$ contains $\frac{1}{4}$ twice; $\frac{2}{3} \div \frac{1}{6} = 4$; $\frac{3}{4} \div \frac{1}{8} = 6$. When this is shown by inverting the divisor we have little more need of objects to illustrate the problems.

All of the work is kept simple by using only the fractions common in daily life, that is fractions with denominators of not more than two figures. Just as soon as the process is clear we begin to use concrete problems.

Many of the problems in fractions serve to review and keep in mind the measures in common use Fractional parts of a foot, a yard, a quart, bushels, and gallons make problems that are related to the life and interests of fifth grade children.

The beginning of decimals seems rather simple in comparison with common fractions. It grows so naturally out of the writing of dollars and cents that at the close of the first lesson in writing and reading decimals the children usually agree that "it 's play." They begin by writing a sum of money involving cents, as $1.25, and see readily that $.25 is $\frac{1}{4}$ of a dollar or $\frac{25}{100}$ of a dollar. Then $.50 is seen to be $\frac{50}{100}$ of a dollar and $.75, $\frac{75}{100}$ and so on until the denominator 100 is seen to be equivalent to the two places for cents. Then we read decimals without money value and when the children see that the position of the decimal point means the same thing as the denominator of the fraction, they are eager to go on and learn all the decimal places. They learn to read decimals of all denominations correctly, and then drill is given upon the reading of those having not more than five places. Then they learn to change decimals to common fractions and common fractions to decimals, and in a comparatively short time are ready for addition and subtraction. In this work it is interesting to watch their satisfaction at being able to use, in this new relation, the old processes, familiar from their work in integers and fractions.

The multiplication of decimals is apt to be rather difficult, but we again use an old process to explain a new one. The short way of multiplying by 10, 100, or 1000 is familiar, and when it is discovered that moving the decimal point one place to the right multiplies by ten, and moving it two places to the right multiplies by 100, the difficulty disappears.

This work in fractions and decimals is not carried into highly organized processes and involved problems, but the principles are learned through use in simple problems and the work is kept accurate through drill and the practice of checking results. This may be accomplished by adding the column twice in opposite directions to prove addition; by adding subtrahend and remainder to prove subtraction; by multiplying quotient and divisor in division, and sometimes by casting out 9's to prove multiplication.

Some time is given, practically every day, to oral problems. These are similar to the concrete problems given for written work, but smaller numbers are used. Usually some problems are assigned as work to be prepared at home. After the principle of the problem is clear we find it profitable to give some work to be done by the pupil alone to stimulate individual effort.

The arithmetic period is a happy one. The children are full of life and vigor. The half hour is all too short, and when it is done we all want "just one more problem."

L. D.

GEOGRAPHY

Grade V

The geography work of the fourth grade is a study of the larger physical features of North America, followed by a study of the United States by political divisions, each division being considered as to the occupations of its people in general.

In the fifth grade the larger physical conditions of Europe and Asia are considered, and the more important countries are studied as to special industrial features, relations in commerce, and national characteristics of the people.

The following outline shows the work done in the general study of Europe and Asia, and the topics used in teaching the United Kingdom as a political division. The other political divisions are studied in a similar manner.

Eurasia.

1. What it includes.
2. Position.
    - Relation to other continents.
    - Relation to Atlantic and Pacific.
3. Size.
    - Compared with other continents.
4. Coast line.
    - Regular or irregular.
    - Peninsulas.
    - Indentations.
5. Surface.
    - Highlands.
        - Himalaya Mountains.
        - Pamirs.
        - Ural Mountains.
        - Caucasus Mountains.
        - Alps.
        - Pyrenees.
    - Lowlands.
        - Great Siberian Plain.
        - Great Lowland Plain of Europe.

6. Drainage.
    - Rivers of Europe (trace course of each).
        - Rhine.
        - Rhone.
        - Seine.
        - Danube.
        - Volga.
        - Elbe.
    - Rivers of Asia.
        - Hoangho.
        - Yangtse-kiang.
        - Ganges.
        - Indus.
        - Tigris.
        - Euphrates.
7. Climate.
    - Heat belts.
        - Rainfall, (study from rainfall map).
        - Heaviest.
        - Least.
        - Moderate.
8. Plants.
    - Tundra region.
    - Northern forests.
    - Trees of Southern Europe.
    - Grassy steppes and savannahs.
    - Trees of the jungle.
9. Animals.
    - Of Europe.
    - Of Asia.
10. People.
    - Of Europe.
        - Races.
        - Characteristics
        - Languages.
    - Of Asia.
        - Races.
        - Characteristics
        - Languages.

British Isles.

1. Countries included.
2. Size.
   - Compare with areas in United States.
3. Position.
   - Direction from other European countries.
4. Surface.
5. Climate.
   - Rainfall.
     - Amount (study rainfall map).
   - Temperature.
     - Compare with same latitude in North America.
     - Reasons for difference.
6. Occupations.
   - Agriculture and grazing.
     - Need for agricultural products.
     - What crops are raised.
       - In what sections.
     - Advantages for agriculture.
     - Importance of stock-raising.
       - Extent to which carried on.
       - Conditions favorable for grazing.
   - Fishing.
     - Where carried on.
     - Chief centers of trade.
     - Why an important industry.
   - Mining.
     - Locate coal fields (study map showing same)
     - Where iron and tin are found.
     - Importance of mining industry.
     - What uses are made of coal and iron.
   - Manufacturing.
     - Woolen manufactures.
       - Leeds and Bradford the centers.
       - Kinds of woolen goods manufactured.
       - Advantages for manufacturing.
       - What becomes of manufactured goods.

- Cotton manufactures.
    - Manchester the center.
    - Advantages for manufacturing cotton goods.
    - Where manufactured goods are sent.
- Iron and steel manufactures.
    - Glasgow, Sheffield, Birmingham, chief centers.
    - Kinds of goods manufactured.
    - Advantages of each center.
- What becomes of manufactured products.
- Linen manufactures.
    - Belfast the center.
    - Advantages for manufacturing.
    - How linen is made.
    - Where it is sent.

- Commerce.
    - Imports.
        - Foods.
        - Raw Materials.
    - Exports.
        - Manufactured goods.
    - Chief ports.
        - Locate
            - London.
            - Liverpool.
            - Southampton.
            - Cardiff.
            - Hull.
            - Glasgow.
        - Exports and imports of each.
        - With what countries does each carry on trade.
        - Trace most important routes on maps.

7. The people.
    - Nationality.
    - Characteristics.
    - Government.
    - Their largest city.
    - Other places of interest.
    - Their possessions shown by map.

The books which have been found most helpful and which are in constant use are Longmans' *Atlas*, Tarr & McMurry's *Europe and other Continents*, Carpenter's *Europe* and *Asia*, Dodge's *Geographies*, and Adam's *Commercial Geography*. Maps, too, are in daily use,—wall maps of Europe and Asia, both the physical and the political, and outline maps of the continents and of political divisions. Other materials brought in as occasion requires are pictures, lantern slides, samples of natural products or of manufactured goods of the different countries studied.

As the outline indicates, the aim of this year's work is to emphasize the life side of geography by studying as thoroughly as time will allow the characteristic industries of the different countries, and to give the children a general idea of the larger physical features of Eurasia. After telling the class that Eurasia includes Europe and Asia, they are asked to locate it on the world map, with which they are already familiar.

Size, surface, and drainage are taught from the map with occasional references to the text-book. After naming and locating the waters surrounding Eurasia, the class are asked to compare the coast line of Europe and Asia with that of North America as to length and character, and to express an opinion as to the location and the number of good harbors they would expect to find in Eurasia. The special advantages which Europe has for trading with all the other continents is also brought out.

In previous work the children have used the physical map but little. Some time is taken just here to teach them how to read the surface from the map and to introduce them to the use of Longmans' *Atlas*. The highlands are located, general direction noted, and highest mountains named. The lowland areas are located, and compared in extent with highland areas. It is shown from the map that the rivers of Asia flow to north, east, and south, and that most of them have their sources in the central highlands; that the rivers of Western Europe flow from the Alps in all directions, and those of Eastern Europe from the low hills in Russia.

In the fourth grade the children learned the different heat belts, and the characteristics of each. Therefore they can tell in what heat belts Europe and Asia lie, and the different temperatures one may expect to find in going from north to south.

Rainfall is studied from the rainfall map. Areas of heavy, moderate, and light rainfall are located. The way of measuring rainfall is explained. The average annual rainfall in New York is given in order that comparisons may be made with other cities and countries. The children learn from the map that in the greater part of Europe and Asia the winds blow from the west. As they blow over the Atlantic they gather a great deal of moisture. In consequence Western Europe has an abundance of rain. Farther toward the east in Russia and Asia there is little rainfall, because the winds have lost most of their moisture. By comparing the rainfall map with the physical map, the children find that the heaviest rainfall in Europe is in highland areas, and are then told the effect mountains have on rainfall.

The plants and animals found in different parts of Europe and Asia are studied, using information gathered by children from books, visits to the Bronx and other zoölogical parks, pictures, and personal experiences.

In studying the people we read from text-books and geographical readers the characteristics of the white and yellow races, locate large sections where they are found in each continent, and enumerate the different languages spoken.

Outline maps are used in connection with many of these topics. Important indentations and peninsulas are named, boundaries of different countries indicated, rivers and mountains located, and the distribution of plant and animal life shown.

This concludes the work on Eurasia as a whole. Europe and Asia are now studied by political divisions with special reference to the occupations of the people.

A very brief study is made of the physical features of the United Kingdom, using the map as much as possible. In order that children may locate places more exactly, and because of the comparisons which they are constantly asked to make, they need to know something of latitude and longitude. They are told that the distance north and south of the equator is called latitude, that the circles on the globe parallel to the equator mark the distance from the equator, that all places on the same parallel are equally distant from the equator. This is followed by drill in finding the latitude of important cities in Europe and the United States. The children are not asked to give the exact latitude, but to use the nearest parallel shown on the map.

Facts about longitude are told in much the same way. The object is to give a simple working knowledge of latitude and longitude for this year's study. The reasons for differences of temperature in similar latitudes—as between the British Isles and Labrador—are brought out through class discussion.

The general method used in studying every industry is first to get information as abundant as may be on the product itself—such as the amount produced, the character of the product,—and then to find reasons for the existence of that particular industry at that particular place. In taking up agriculture in the United Kingdom, the products are compared with those of Labrador and of our own latitude, bringing out the reasons for the differences in the one case and the similarities in the other. The need of agriculture and the importance of stock-raising can best be shown by having children find out the population of the British Isles, noting especially the population of England, and comparing the figures with those of the United States in connection with the area of each country. This also teaches them how to get information from the tables of areas and populations to which they will often be referred throughout the year.

In studying mining, comparisons are constantly made with the United States, and Great Britain's place among the five leading coal producing countries of the world is given. The number of miners in Great Britain is mentioned to show the extent of the industry, the dependence of one industry upon others, and to emphasize the demand for agricultural products.

The children of the Horace Mann School have travelled a great deal, both in our own country and in Europe, and are therefore able to give considerable information on many topics from personal experience. Often some child can tell of his visit to a coal mine or some factory in a way which proves interesting and instructive to the class.

Considerable time is spent in teaching the manufactures of the British Isles, following pretty closely the topics given in the outline. The children are required to bring to the class as much information as they are able to gather, special topics often being assigned to individual pupils. They are also asked to bring to the classroom whenever they are able articles showing characteristic manufactures. The advantages for manufacturing and the disposal of manufactured goods are brought out chiefly through class discussions. Here, too, the dependence of manufacturing on mining and agriculture is emphasized.

If agriculture, fishing, mining, and manufacturing have been taught successfully, it will be an easy matter for the class to name the chief exports and imports, and they will be fairly familiar with the different ports and the character of their trade. This topic is largely a review of previous work, as is also the last topic—the people.

In connection with the study of London and of other interesting places in the United Kingdom, much use is made of the lantern and of photographs. Only a few slides are shown at one time, and the children are usually asked to contribute information or interesting incidents from their own experience as the pictures appear on the screen.

While the location of places has been mentioned only incidentally, it is made an important feature of the work. Not only commercial and industrial centers, but places of historical interest and of scenic beauty are located. The children are required to point out these locations on wall maps and to indicate them on blank outline maps until they become perfectly familiar with them. In the United Kingdom, for example, we hold the children responsible for a fairly exact location of the following cities: London, Liverpool, Glasgow, Manchester, and Leeds. An approximate location is required of such towns as Cardiff, Southhampton, Sheffield, Hull, Edinburgh, and Belfast.

Other important countries of Europe and Asia are studied, using the same general plan. Industries are constantly compared with those in the United States and other European and Asiatic countries already considered.

The work of the grade is reviewed at the end of the year from the standpoint of industries. Maps are made showing location of characteristic industries in particular sections of Eurasia, and conditions favorable for that industry in the localities mentioned are discussed.

M. G. P.

HISTORY

GRADE V

In the third and fourth grades the geography and history are combined. In the third grade Home History is studied in connection with Home Geography. In the fourth year biographies of representative men associated with the early history of the United States are given in connection with the geography of North America. In the fifth year geography and history are taught as separate subjects. The geography is a study of Europe and Asia, the history a study of the Greeks and Romans. This work in Greek and Roman history is followed in the sixth and seventh grades by a study of mediæval history and the history of the United States.

Greek and Roman history thus takes its place in a general survey of European history as a background for a more intelligent study of American history later in the course. Special emphasis is laid upon those facts in ancient history which tend to develop an appreciation of literature and art and aid in their interpretation.

The topics considered are as follows:

GREEK HISTORY OUTLINE.

I. Oriental peoples near the Greeks.
  1. The Egyptians.
    (a) Geographical features of Egypt.
    (b) Location of Thebes.
    (c) Monuments and buildings.
      Pyramids, obelisks, temples.
    (d) Manner of living.
    (e) How we know their early history.
  2. The Phœnicians.
    (a) Location of Tyre and Sidon.
    (b) Phœnicia's great navigators and merchants.
    (c) Their manufactures.

3. The Persian kingdom under Darius I.
    - (a) Extent.
    - (b) Government.
    - (c) Resources.
    - (d) Luxury.

II. The earliest Greeks.
1. The home of their ancestors.
2. The migration into Greece.
3. Life in early Greece.
    - (a) Food.
    - (b) Clothing.
    - (c) Houses.
    - (d) Migratory habits.
    - (e) Attitude of one tribe toward another.
4. What Homer tells of them.
    - (a) The Trojan War.
    - (b) The return of Ulysses.
5. What, according to legend, the Greeks learned from neighboring peoples.
    - (a) From the Phœnicians.
    - (b) " " Egyptians.
6. Difference this knowledge made in their way of living.

III. Greek colonization in the Mediterranean.
1. Reasons for sending out colonies.
2. The settlement of Chalcidice.
3. Extent and influence of colonization. (see map).

IV. Early Sparta, 750 B.C.
1. Location.
2. Character of Lacedæmon.
3. Institutions and laws attributed to Lycurgus.
    - (a) Why they bear his name.
    - (b) Object of these laws and institutions.
    - (c) Training of the boys and girls.
    - (d) Occupation of the men
    - (e) Dress.
    - (f) Houses.
    - (g) Food.
    - (h) Money used.
    - (i) Government.
    - (j) Different classes.

4. Conquest of Messenia.
5. The way the Spartans treated the conquered.

V. Early Athens, 750 B.C.
1. Location.
2. Geographical features of Attica.
3. Government.
4. Trouble between the rich and the poor.
5. First written laws drawn up by Draco in 621 B.C.
    (a) Character of these laws.
    (b) Why they did not put an end to the trouble between the rich and the poor.
6. Solon and what he did for the Athenians.
    (a) What we know of Solon before he was made legislator in 594 B.C.
    (b) Object of the reforms he introduced.
    (c) Some of the measures proposed by him.

VI. The bonds which held the Greeks together.
1. Blood relationship.
2. Common religion.
3. Common language.
4. The oracles.
5. National games.
    Olympian games.
        (1) How often held.
        (2) Different contests.
        (3) Influence of games.
6. The works of Hesiod, Sappho, Pindar.

VII. The wars with Persia.
1. Territory held by Greeks.
2. Darius's kingdom.
3. Cause of Darius's anger against the Greeks.
    (a) Revolt of Ionian cities.
    (b) Burning of Sardis.
4. First Persian expedition against the Greeks.
    (a) Preparations made at Athens for defence.
    (b) Route taken by Persian forces
    (c) Disasters of the march.
5. Second Persian expedition against the Greeks.
    (a) Demands made by Persians.

    - (b) Preparations for this expedition.
    - (c) Route chosen.
    - (d) Preparations made by Greeks for defence.
    - (e) Battle of Marathon, 490 B.C.
  - 6. The conflicting measures proposed by Aristides and Themistocles.
  - 7. Third Persian expedition against the Greeks.
    - (a) Extensive preparations made by Persians.
    - (b) Route chosen and its difficulties.
    - (c) Crossing the Hellespont.
    - (d) Preparations made by Greeks for defence.
    - (e) Battle of Thermopylæ, 480 B.C.
    - (f) Destruction of Athens.
    - (g) Battle of Salamis.
    - (h) Battle of Platæa.
  - 8. Effect of the war upon the Greeks.

VIII. The re-building of Athens, 479–461 B.C.
  - 1. Fortification of the city.
    - (a) City walls built.
    - (b) Piræus surrounded by wall.
  - 2. Ostracism of Themistocles.
  - 3. Athens the head of the Delian league.
    Persians driven from Ægean Sea.
  - 4. Cimon adorns the city.
  - 5. The great sculptors and poets.
    - (a) Myron.
    - (b) Æschylus.

IX. Age of Pericles, 461–431 B.C.
  - 1. Ostracism of Cimon.
  - 2. Building of the Long Walls.
  - 3. Athens and her allies.
    - (a) Ægean sea now an Athenian lake.
    - (b) Allies pay tribute to Athens.
  - 4. Thirty years' truce between Athens and Sparta.
  - 5. Government.
    - (a) Power of the archons.
    - (b) Assembly.
    - (c) Power of the generals.
  - 6. Funds of the Delian league used to make Athens beautiful.
    - (a) Theseum.

- (b) Parthenon.
- (c) Propylæa.
- (d) Erechtheum.
- (e) Odeium.

7. Home life of the Athenians.
8. Some of the great men of Athens: Pericles, Herodotus, Phidias, Socrates.

X. Civil wars in Greece, 431–413 B.C.

1. Peloponnesian War.
    - (a) Allies of Athens and Sparta shown by map.
    - (b) Causes of the war.
    - (c) Spartans invade Attica.
    - (d) Athenians attack coast of Laconia.
    - (e) Plague at Athens.
      Death of Pericles.
    - (f) Surrender of Platæa, 427 B.C.
    - (g) Expedition against Sicily led by Alcibiades.
    - (h) Athenians defeated at Ægospotami.
    - (i) Terms of peace.
    - (j) Government of the Thirty at Athens.
    - (k) Sparta supreme in the east.
2. Thebes attempts to gain supremacy.
    - (a) Battle of Leuctra.
        - (1) Tactics of Epaminondas.
        - (2) Spartans defeated.
    - (b) Battle of Mantinea.
    - (c) Results of this battle.
    - (d) Thebes and allied states shown by map.

XI. Rise of Macedon.

1. Geographical features of Macedon.
2. The Macedonians.
    - (a) Homes.
    - (b) Dress.
    - (c) Habits.
3. Philip's education in Thebes.
4. Philip makes Macedon strong.
    - (a) Military reforms.
    - (b) Annexation of coast cities.
    - (c) Opening gold mines.

- 5. Conquest of Greece.
    - (a) The Sacred War.
    - (b) Demosthenes's opposition to Macedon.
    - (c) Battle of Chæroneia, 338 B.

XII. Alexander's Empire, 338–146 B.C.

- 1. Alexander's boyhood.
- 2. Suppression of rebellion in Greece.
- 3. Conquest of Persia.
    - (a) Size of army.
    - (b) Battle on the Granicus.
    - (c) Battle of Issus.
    - (d) Siege of Tyre.
    - (e) Founding of Alexandria.
    - (f) Battle of Arbela.
- 4. Alexander becomes Emperor of Persia, 330 B.C.
    - (a) Further conquests and explorations.
    - (b) Improvements in government of Empire.
    - (c) Re-organization of army.
    - (d) Building of an immense fleet.
- 5. Extent of Empire shown by map.
- 6. Breaking up of Empire.
    - (a) Death of Alexander, 325 B.C.
    - (b) Empire divided.
    - (c) Greece conquered by Rome, 146 B.C.

XIII. Influence of Greek civilization on subsequent life.

ROMAN HISTORY.

I. Early Rome, 753–509 B.C.

- 1. Geographical features.
- 2. What the Romans thought of their early history.
    - (a) Founding of the city.
    - (b) Stories of the kings.
- 3. How the Roman people lived.
- 4. The growth of the city.

II. Rome as a republic.

- 1. The government.
- 2. The plebeians and what they wanted.
- 3. Some famous battles and leaders.

        - (a) Lake Regillus.
        - (b) Sack of Rome by Gauls.
        - (c) Cincinnatus.
        - (d) Candine Forks.
    - 4. War with Pyrrhus.
    - 5. Rome mistress of Italy (map), 266 B.C.
- III. Rome and Carthage.
    - 1. Carthage and her people.
        - (a) Location.
        - (b) Founding of the city.
    - 2. Strength of Rome and Carthage compared.
    - 3. First Punic War.
        - (a) Causes—direct and indirect.
        - (b) Building of Roman fleet.
        - (c) Battle of Mylæ.
        - (d) Regulus in Africa.
        - (e) Terms of peace.
    - 4. Second Punic War.
        - (a) Cause.
        - (b) Career of Hannibal—Victories and final defeat
        - (c) Conditions of peace, 202 B.C.
    - 5. Third Punic War.
        - Destruction of Carthage, 146 B.C.
    - 6. Extent of territory under Roman rule (map).
- IV. Rome extends her conquests.
    - 1. War with Macedonia and Greece.
        - Occasion and results.
    - 2. War with Antiochus and Mithridates.
- V. Civil strife in Rome.
    - 1. The Gracchi.
    - 2. Marius and Sulla.
    - 3. Cæsar and Pompey.
- VI. Rome as an empire, 49 B.C.–14 A.D.
    - 1. The work of Julius Cæsar.
    - 2. The second triumvirate.
    - 3. The reign of Augustus.
    - 4. Roman life in the days of Augustus.
        - (a) Homes.
        - (b) Dress.
        - (c) Schools.

    (d) Writers and books.
    (e) Buildings.
    (f) Life of the Forum.
  5. Extent of empire in 14 A.D.

VII. Influence of Roman civilization on subsequent history.

In teaching these topics we have several aims in view: first, to give a simple chronological and historical account of certain events; second, to make such names as Themistocles, Pericles, and Cæsar mean something; third, to give some knowledge of the past in order to make comparisons with the present; fourth, to awaken interest in books on history and teach how to use them; fifth, to gather and arrange historical material in a simple way; sixth, to make prominent the æsthetic, intellectual, and literary side of Greek life, and the governmental and legal side of Roman life.

Of the many books on Greek history the following have been found particularly helpful to the teacher: Holm's *History of Greece*, Botsford's *History of Greece*, and West's *Ancient History*. Other books are often used for special topics. The text-book used by the children is Guerber's *Story of the Greeks*. Other books in the classroom library which the children read in connection with special topics are: Morris's *Historical Tales*, Harding's *Greek Gods, Heroes, and Men*, White's *Plutarch for Boys and Girls*, Church's *Stories of the Persian War*, Church's *Stories of the Old World*, White's *Herodotus for Boys and Girls*.

The teacher reads to the class from Plutarch, Herodotus, Thucydides, Bryant's Iliad, Palmer's Odyssey, and Church's *Greek Stories*. The Iliad and the Odyssey are made a part of the literature course. Pictures of scenery and of buildings, of gods, heroes, and great men are in constant use. Maps, too, are used in almost every lesson. Lantern lessons are given dealing with the mythological period, and illustrating the beauties of Athens in the age of Pericles. An excursion is also made to the Metropolitan Museum of Art to study the Acropolis and the Parthenon. To impress still further the glory of this ancient city each child mounts in a book ten or more blue prints of Athens and her great men.

The Greek history outline is given with considerable detail, and only certain topics illustrating the method of teaching will be described. It should be remembered, however, that all the topics are taught in a simple way.

TOPIC I. ORIENTAL PEOPLES NEAR THE GREEKS

On the world map the children locate the Mediterranean Sea. They do this easily as they have studied the world as a whole in the fourth grade. Then Egypt, Phœnicia, Persia, and Greece are located. After telling the class something about the valley of the Nile and locating Thebes, the home life of the Egyptians is described, and selections read from Maspero's *Ancient Egypt and Assyria*. The discussion of the topic "How we know the early history of the Egyptians" brings to the attention of the class the pyramids and obelisks, and in a simple way shows how historical information is obtained from these relics of ancient peoples. The children know something of the Phœnicians from their study of Early Trade and Discovery in the third grade. The topics in the outline add little that is new, but are sufficient to show the marked characteristics of the people.

Phœnicia and Egypt influenced Greece in her very early history, but Persia does not enter into Greek life until a later period. Therefore, the Persian kingdom under Darius I is given quite fully in order that later on intelligent comparisons may be made between the Greeks and the Persians.

To get the atmosphere of the past we contrast life in each of these three countries with the present, and try to form some idea of the limited knowledge one country must have had of another. This topic is the introduction to the history of Greece. It is taught to give certain knowledge of the countries which influenced Greece the most, and to create in some degree the atmosphere of the past.

TOPIC II. THE EARLIEST GREEKS

The southern part of Russia is located on the map as the home of the ancestors of the earliest Greeks. The migration into Greece is described by the teacher, and selections dealing with the subject are read to the class.

In order to understand life in early Greece the geographical features must be studied. These are taught from maps and from Tarr and McMurry's *Geography*, which is the text the children use in their geography work. This study of Greece should bring out the fact that sea and mountains protected the country from invasions, while fine harbors encouraged intercourse with other countries. Some good accounts of life in early Greece are read to the children. This is followed by a discussion in which the Greeks are compared with the North American Indians. The sources from which we get our knowledge of ancient Egypt have already been discussed in a simple way, and now the children are eager to learn how we know so much about the Greeks. They are told that we get much of our knowledge from the old myths and from the Iliad and the Odyssey; that the Iliad and the Odyssey are very old books which people read to-day; that for a long time they were supposed to have been written by one man, but now are thought to be the work of many. The children then read the chapter on Homer in Guerber's History, and the teacher supplements this by reading an account of Homer and the Epic Age from Botsford or some other standard historian.

The first topic assigned to the class for study is the "Story of the Trojan War." This is done by giving the children a brief outline:

(1) The cause of the war. (2) Muster of the troops. (3) The delay at Aulis, etc. They are asked to prepare to tell the story following the topics. In connection with these lessons, or after they have given the account as fully as they are able, the teacher reads to them from Bryant's Iliad. Most of this reading is done as literature and is much enjoyed. Selections from Palmer's Odyssey are also read, and found even more delightful than the Iliad. Often the children read in both these books for themselves. Many of the Hawthorne stories given in the literature course correlate with this early history.

The next topic studied by the class is, "What, according to legend, did the Greeks learn from neighboring peoples?" The children know from their study of Guerber the stories of Inachus, of Acrops, of Cadmus. Then follows a discussion as to the probable truth of these myths, which always proves most interesting and helpful to both teacher and pupils. The influence which this intercourse with Phœnicia and Egypt had on the daily life of the Greeks is brought out in class discussion, comparing, point by point, (1) Food, (2) Clothing, (3) Homes, (4) Habits.

TOPIC III. GREEK COLONIZATION IN THE MEDITERRANEAN

In the third grade the children learned that New York was a colony settled by the Dutch. In the fourth grade they studied the lives of Winthrop and Bradford. Therefore they know that the English and Dutch sent out colonists. They learn, too, from this year's geography study that the United Kingdom has many colonies at the present time. All this makes Greek colonization so many years ago especially interesting. We attempt to get from the children not only the names of the colonies which they have studied, but the reasons why they were sent out. Then the reasons for the settling of Greek colonies are considered. Most of this must be given by the teacher, though the children are allowed to suggest probable causes which are discussed by the class. The reasons given for the settling of Greek colonies are: (1) The Greeks on the west coast were mariners fond of adventure. (2) Greek love of freedom led them, if oppressed, to seek other homes. (3) Cities sent out colonies for trading purposes. The organization of a colony is explained and the history of the planting of Chalcidice is followed to make the work more vivid and interesting. The extent of Greek colonization is shown on the map with the view of giving the children some conception as to how the influence of Greek culture came to be so widespread.

TOPIC IV. EARLY SPARTA

Guerber's *Story of the Greeks* gives a great deal on this topic. So considerable time is spent in teaching the class how to use a text-book. At first topics are written on the blackboard and chapters and pages are given. After a few lessons the children are required to find information for themselves through the index and titles of chapters. The teacher studies with them in the beginning, but very soon topics are assigned for home study. Special topics to be looked up in particular books in the class-room library are sometimes given to individuals. This is frequently done later in the year. Selections from Plutarch's "Lycurgus" are read to the class. This is the beginning of an acquaintance with this ancient writer which continues throughout the year. The children are told something of Plutarch, and that Plutarch's "Lives" is one of the sources of information used by historians. Experience proves that they are always much interested to know what Plutarch says of the great men of Greece and Rome. This topic furnishes excellent material for composition work. "The Training of Spartan Boys," "Aristomenes's Attempt to Free Messenia" are two subjects which have been used with good results. An oral review followed by a few written questions concludes the work on early Sparta. The written questions require brief answers, but are intended to bring out the essential points.

TOPIC V. EARLY ATHENS

The history of early Athens is much more difficult to understand than that of Sparta. Therefore the teacher must give to the class practically all the information which the topics demand. Each one is treated in a very simple way. Solon's laws are considered as attempts to improve the condition of the poor and only a few are mentioned. The contrasts between Athens and Sparta are brought out point by point and the advantages of each state discussed.

TOPIC IX. AGE OF PERICLES

Time enough is spent on this topic to make it apparent that the Athenians at this period were prosperous, enterprising, and highly cultured, and that Athens was a very beautiful city. The rebuilding of Athens is taught as an introduction to this most glorious period of Greek history. The children get as much information for themselves as possible from Guerber, and from books at home and in the class-room library. The teacher reads to them from Plutarch's "Pericles," and supplies as much additional information as is needed to give a picture of Athenian home life. The home life of the Athenians of Pericles's time is contrasted with life in early Athens, and also with our own home life.

Pictures and lantern slides of the Parthenon, and the Erechtheum, are studied to show the beauty of the city. The class visits the Metropolitan Museum of Art to see the models of the Acropolis and the Parthenon. This excursion has proven to be of great value not only for the information the children get, but also for the interest which it arouses in Greek life.

Last of all, the lives of the great men of this period and what they did for Athens are considered. This gives an opportunity to bring out the patriotism, enterprise, and education of the Athenians, and to compare the great men of Athens with the great men of modern times. It is also easy to show in a simple way that the people of to-day owe much to the Athens of Pericles.

The general method used can be summarized briefly. The children are taught to use a text-book, and to look up references in other books, topics and pages being given. They are taught to make outlines of large topics, the Persian wars and Alexander's conquests furnishing particularly good material for this kind of work. Some topics are given entirely by the teacher, for others the children gather nearly all the information needed. The teacher often reads to the class from modern histories and from original sources. Maps are used in practically every lesson. Pictures, too, are often placed before the class for study and enjoyment. Some half dozen or more important dates are memorized. Biographies of great men are studied to bring out Greek characteristics. Frequent reviews are given, both oral and written, and many composition subjects are taken from the history. The lesson often takes the form of a discussion, if the children have sufficient knowledge to talk intelligently. Questions from the class are always welcomed. Comparisons are made between the past and present and the fact is emphasized that we of to-day owe much to the old Greek civilization.

The method used in teaching the history of Rome is essentially the same as that which has been described for the teaching of Greek history.

M. G. P.

NATURE-STUDY

Grade V

Before the child reaches the fifth grade he is familiar with many of our common birds and trees, the interest in both having been aroused in the primary grades. He is now ready for a more extensive and at the same time intensive study of these subjects, with especial emphasis upon their relation to man. In this grade, as in fact in all others in the elementary school, three aims are prominent: (a) to give general acquaintance and interest, (b) to develop habits of careful observation and reasoning, and (c) to give some useful knowledge concerning common natural things as they affect "human interests."

The time allowed is about one hour a week (three twenty-minute or two thirty-minute periods), although much is done in addition to this out of school.

Trees. The work on trees is begun early in the fall and is based on the following outline:

I. Forest Culture.
  a. Need of forestry.
  b. History of forestry.
  c. U. S. Reservations.
  d. Forest Service.
  e. Forester's duties.
  f. Uses of timber.
II. Life of a tree.
  a. Parts.
  b. Food.
  c. Breathing.
  d. Structure of wood and growth.
  e. Reproduction and cultivation.
III. Trees in a Forest
  a. Various requirements.
  b. Rate of growth.
  c. Reproductive power.
  d. Pure and mixed forests.

IV. Life of a Forest.
  a. Beginning of crop.
  b. Struggle for existence and survival of fittest.
  c. Natural pruning.
  d. Enemies.
  e. Culmination of growth.

The beginning of the study of "Forest Culture" is taken up in connection with geography. The influence of forests upon streams is discussed as well as their tendency to prevent floods and drought and thus protect agriculture. This makes clear the importance of forests, shows why they should not be recklessly destroyed, and explains the necessity of organizations such as the United States Forest Service. The children are given some idea of the nature and scope of the work of this body, and some of them, through study or travel, know something about the German forester and can tell something of his work.

The uses of timber are also emphasized. Our dependence upon wood for fuel and upon lumber for building is not a new thought to the children, but they have little appreciation of the greatness of our indebtedness to the products of the forest until their attention has been called to innumerable things in our modern civilization that owe their present advanced condition to the use of lumber—such as our cities, our railroads, our steamship lines.

While the above lessons have been given, the pupils have been collecting the fruits, leaves, and branches of the trees and each child has not only the pressed leaf, but a picture of the leaf, flower, and fruit of each tree. The Manual Training Department could assist here in the making of leaf presses.

The "Life of a Tree" proves a most interesting topic. The functions of the roots, the trunk, and the crown are studied. How the tree gets its food, how it breathes, how it grows, are questions that are discussed in an elementary way. Simple experiments, such as covering a plant with a bell jar, show the pupils that the roots take up more water than the plant requires and that this water is disposed of by evaporation from all parts above ground. This leads up to the general topic of tree transpiration and its effects. Drawings and sections shown under the microscope give a vivid idea of wood structure.

The reproduction of trees, while touched upon in the fall study, properly belongs to the springtime when the window-box is used to illustrate the two methods, that of reproduction from seeds and from sprouts. The fact that seeds are disseminated by means of the wind and water, by birds, squirrels, fur-bearing animals, and by people is brought out through discussion.

"Trees in the Forest" appeals to the child as no other topic in the course does, for here the life side is most noticeable. The various requirements of the trees are noted. Comparison is made of trees growing on the north side of a slope with those on the south side; of those growing in the heart of the forest with those on the margins; of those on a dry slope with those in a wet meadow. In the study of the tree's struggle for existence the child realizes fully that a tree is a living thing, and the stronger and more perfect, the greater its opportunity in the life of the forest.

The difference between our local woods and a real forest can be brought out by some personal experience of a traveller or by stereopticon views of our great reservations. Here statistics are useful. This general work on "Forestry" is followed by a somewhat detailed study of our native trees. The results of the study are:

1. An insight into some of our civic problems.
2. An increased knowledge of each tree and its use.
3. An interest in the life side of a tree.
4. Less of the ruthless destruction of our trees whose foliage and flowers beautify the landscape.

Birds. The tree work is followed by the regular bird study, although the fall migrations have been noticed and constant reference has been made to the early winter birds.

The following outline has been the basis for the work for three years:

Birds—Autumn, winter, and spring—parallel with studies of trees: (a) Study living and mounted birds in schoolroom in order to give acquaintance with general form, parts, and uses of the body. (b) Field studies of common birds—identification, movements, migration, food, records of observations. Individual work should be stimulated. (c) Studies of habits of young chicks and ducks. (d) If possible, class should visit Zoölogical Park to observe some of the striking modifications of birds in adaptation to habits of life. (e) Economic relations of some common birds; value of our domestic birds; bird protection by special societies and laws; birds for decoration.

The class work begins early in the year with some discussion of the main topic, "Birds in their Relation to Man." Here we attempt to draw together and organize the facts based on the experience of pupils of the class and at the same time show them that birds are worth studying. This introduction does not fail to arouse great interest, and thus a good start in bird study is made. A small proportion of the time is given to this introduction, but it is strongly emphasized throughout the course when the habits of each bird are studied. The result is that the pupils realize the beneficial relation of the birds to agriculture, the important service they perform as scavengers, and the much needed protection of our game and song birds.

The injurious relation to man must of course be mentioned. Here arises opportunity for the cultivation of good judgment on the part of the pupil when he is allowed, after carefully weighing both sides, to decide if the destruction of certain birds is justifiable.

The introduction is followed by some study of bird structure, which is needed for field work and for identifying birds. In this work live pigeons and parrots, stuffed birds, bird skins, skeletons, and charts are used. The chief external parts of the bird's body are studied for their uses.

During the autumn and winter blackboard records are kept of individual observations of fall migrations and winter birds. These can never be accurate because they are made by untrained observers in various places. All reasonable ones are accepted for the sole purpose of arousing and keeping alive the interest in the study and encouraging outdoor activity.

Sections of the class under the guidance of the teacher make excursions, often before school in the morning, to Central Park where careful observations are made. Twenty-seven different kinds of birds have been accurately identified in a single morning. Strong emphasis is placed upon accuracy, and doubtful observations reported to the class are noted on the blackboard as demanding more evidence.

Constant reference is made to a set of colored pictures, arranged for the purpose of easy inspection, as a frieze around the room. These are placed in the order of the spring arrival of the birds. Stuffed specimens such as are not available at Teachers College are loaned by the Museum of Natural History, giving a more intimate knowledge of the coloring than can be obtained from the bird in his native haunts or from even the best colored plates.

Certain bird games have been tried for the purpose of testing the memory and familiarity with the subject. In one game where seventy-two birds were to be identified in a given time from stuffed specimens and pictures, more than two-thirds of the class knew half the number and one pupil knew sixty-seven of the seventy-two.

That the interest and active work often continues after the pupil leaves the fifth grade is shown by the collection of old nest-eggs, and other interesting materials brought in by former pupils of this grade. A few years ago, at the suggestion of some of the enthusiastic pupils, a Nature Club was formed in order that the work begun in the fifth grade might be continued. The club at present has twenty members from the high school and upper grades. The meetings are held twice a month and many very good papers written by the members have been read and discussed. The class-rooms and specimens at the Museum of Natural History have been kindly opened to the Club, and much interesting and profitable work has been done there. Every applicant for membership must write an original paper showing some knowledge of birds. That the Club has a waiting list of nearly one dozen children testifies to the continued interest in this study.

The bird-work offers excellent opportunity for correlation with art, language, and literature. Selections from John Burroughs, William J. Long, and Florence Merriam have been used in the reading lessons (not as nature-study). The following poems have been found helpful, many of them having been memorized by the class: Bryant's "Robert of Lincoln"; Thaxter's "Robin" and "Sandpiper"; Drake's "Mocking-bird's Song"; Carey's "Blackbird"; Coolidge's "Discontent"; Longfellow's "Birds of Killingworth" and "Birds of Passage"; Holland's "Life in the Nest"; Lowell's "The Nest"; Larcom's

"Brown Thrush," "Snow Bird," "Birds with Bosom Red"; Van Dyke's "Veery," "Song Sparrow," "Maryland Yellow Throat," "Whip-poor-will."

During the year, snails, slugs, tadpoles, fishes, lizards, ants, caddises, and moths are kept in the class-room for observation and occasional lessons. This results in individual observations, many long tramps through marshes and meadows, and the collection of valuable material.

The chief object in the study of birds, trees, aquaria, and vivaria is to emphasize the relation which animals and trees bear to man, to impress upon the child's mind that they have a life work, and to create a sympathy and a deeper feeling which will result in personal protection. Besides this we feel that one of the most important results of the work is the constant training in accuracy, not only of eye and ear, but accuracy of statement, which affects all other branches of study in this grade. Here is certainly something of practical value in the nature work of the present day.

Bibliography. The following list of books and pamphlets has been found especially helpful:

Study of Trees. Huntington. (Knight & Millette.)
Our Native Trees. Keeler. (Scribners.)
Trees of New England. Dame and Brooks. (Ginn & Co.)
Primer of Forestry. Pinchot. (U. S. Dept. Agriculture.)
Among Green Trees. Rogers. (A. W. Mumford.)
Birds in their Relation to Man. (Weed & Dearborn.)
Bird Life. Chapman. (Appleton.)
Bird Homes. Dugmore. (Doubleday & McClure.)
First Book of Birds. Olive Thorn Miller. (Houghton, Mifflin & Co.)
Second Book of Birds. Olive Thorn Miller. (Houghton, Mifflin & Co.)
Bird Life Stories. Weed. (Rand, McNally & Co.)

Many helpful bulletins are issued by the Department of Agriculture. The following have been successfully used by the pupils: "Four Common Birds"; "Birds as Weed Destroyers"; "Food of Nesting Birds."

L. B. U.

MANUAL TRAINING

Grade V

The study of the domestic occupations of the pioneer colonial home in the preceding year leads directly to the work in this grade and forms a basis for comparison. In the fourth grade the situation presented is that of the independent household where almost all, if not all, the work of production and manufacture is accomplished by the different members of the household, the men building the houses, raising the crops, and caring for the cattle; the women attending to the preparation of food, spinning, weaving cloth, and making clothes.

In the fifth grade the picture of a later stage is presented, when the size of settlements had increased, and villages and towns had developed. Under these conditions it was not possible for each household to produce all it needed, and so it came about that one set of people raised the raw materials while another set converted them into commodities for exchange or sale. This was still the period before the introduction of power and machinery, and the time when handicraft was the method of production. Exchange was at first very direct, and largely a matter of barter. It was almost purely a local affair, where the buyer went not to a merchant but directly to the individual who produced the article desired, he being both producer and merchant combined. These ideas are presented to the children in class discussions. Much of the development they are able to trace from their past study. The emphasis is placed more than it has been heretofore on the relation between production and consumption.

The actual constructive work of the grade deals to a large extent with certain forms of handicraft which involve distinct artistic possibilities, usually pottery or basketry. The children come to this grade with some knowledge and experience in both these subjects. In fact many of the processes are the same as they have worked out in a crude way in the earlier grades.

It is, therefore, possible for them to direct their efforts to the making of articles having artistic merit in form, proportion, color, and design. Both woven and coiled baskets are made, and reed and raffia form the principal materials used. If the children are not already familiar with these materials, facts about the sources from which they are obtained, and their manner of growth and preparation for use, are taught.

The woven baskets are either entirely of colored reed, or have spokes of flat reed woven with raffia. The wicker and twined weaves are both used in making the baskets, and the braided and rope borders in finishing off the tops. Methods of making and fastening on covers, as well as braided and twisted handles, are also considered. Before making a basket the children design (within certain limitations) and cut from paper the shape to be made, and plan the placing of any decoration which is to be used. This consists either of bands woven of a different colored reed, or some simple spotted or striped effect to be produced by the twined weave. When working the children have their patterns constantly before them, take all their measurements from them, and approach them in results as nearly as they are able.

Woven Baskets

The control of material, and the ability to produce the particular form desired, are the ends in view in this work. The first baskets made are necessarily unsatisfactory because in these first attempts technical processes must be learned as well as skill in manipulation.

Coiled baskets may assume several different forms, the most common being those made of the Lazy Squaw, Navajo, or similar stitches. As in the woven baskets, the children design both the shapes and the decoration, which may assume the form of bands or spots of a different color from that of the main part of the basket. In the latter great variety is possible.

Pottery is carried on in much the same way as basketry. Facts about the composition of clay, the sources from which the material is secured, the form in which it is found, its preparation for use, and its characteristic qualities are taught. Clay is always an intensely interesting material to children, and as a rule the average fifth grade boy and girl knows more about it than he is given credit for. By simple processes of hand-building fern-dishes, trays, bowls, candlesticks, vases, tiles, and various other useful articles are made and decorated both with incised designs and by the application of color, either in the form of slip or glaze. At first the children are limited to perhaps one shape for a single piece. The size and proportion may be left to them, after a few suggestions have been made by the teacher. Later more liberty of choice is allowed, and still later they work from forms which they have designed in the art class. The pattern for bands and borders are also worked out there, and color schemes suggested.

Pottery

Before the first biscuit-firing takes place, the subject of "firing" is discussed, and the children see the kiln, and learn about its workings. Groups assist in stacking the kiln, taking turns until each child has had some experience, and then all the children see the kiln again during the firing. They learn at what temperature the clay is fired, how long a time is required, and the system of cones used in determining these points. Mixing and applying the glaze or slip is always an interesting feature of pottery work. The former involves some vigorous exercise, and some good experience in careful weighing.

Later in the year the children experiment with a potter's wheel, and have opportunity to see a good demonstration of its use by an expert potter who comes to the school and works before them. They also see a demonstration of the making of a piece of pottery in a mould, and the process of making a plaster cast. When possible, a large pottery is visited so that the children may see the machinery by means of which much of the modern ware is produced. With this consideration of pottery as a present-day industry the subject comes to an end.

Living Room

In the latter part of the year the boys and girls are divided, the girls taking up sewing, and the boys woodwork. Their interests, however, are still centered in the accomplishment of one piece of work, that being the building of a house consisting of several rooms, and furnishing the same. The building represents simple frame-house construction, and carries forward the development of types of shelter under consideration. The furnishing presents many opportunities for artistic expression, and the application to other materials of principles used during the year's work. Problems of design, of proportion, and of color are considered and worked out by the children. The boys, of course, do the woodwork in connection with the problem, while the girls make the curtains, draperies, pillows, scarfs, and rugs. When there is not sufficient time to build the entire house, a single feature, such as a room, is sometimes chosen and executed. (See illustration, p. 354). This, however, is done only after the house and its construction have been discussed as a whole.

L. H. W.

TIME SCHEDULE

Grade V

Number of minutes per week devoted to the various activities:

Language Composition Spelling	150
Literature and Reading	90
Penmanship	45
Arithmetic	125
Geography	100
Nature-Study	60
History	80
Manual Training	90
Art	70
Music	60
Physical Education	90
Recess	75
Opening Exercises	75

Sixth-grade Boys in " Robin Hood."

Elementary School Curriculum

SIXTH YEAR

LITERATURE

Grade VI

No subject in the curriculum of the Horace Mann Elementary School receives more attention, from the first grade through the seventh, than that variously called "reading" and "literature." This seems right and natural to both pupils and teacher. The children regard reading as the open sesame, not only to the stories in which they delight, but also to a great variety of useful information. The teacher sees in it something more than this: in her eyes it is her strongest ally in carrying on the work of education. By its aid she hopes to lay the foundation of that true culture which the study of literature pre-eminently gives—the broadening of the mind, the development of the sympathies, the establishment of high ideals.

If the influence of literature is so potent, it is obviously our duty to give our children, as early as possible, the means to acquaint themselves with good books, and to place in their hands the right good books at the right time. If this latter is done, they will quickly grow to a truer appreciation of what is really fine, and will develop an ever-increasing love for it. Which books are the "right" ones for our sixth grade children is one of our problems. How we attempt to solve this problem—the principles that guide us in our selection of material, and the ways and means that we employ to carry out these principles—is the subject of this paper.

The reading books of a few years ago offered for the delectation of children of this age among other things such selections as Milton's "Invocation to Light" and Addison's essay "On

Immortality." No fault can be found with these as literature, but in the fuller knowledge of to-day they are hardly regarded as the best means of inspiring the twelve-year-old child with the "joye of books." Instead we introduce him to the old border ballads and to the epics and romances of the middle ages—The Arthurian legends and the tales of Charlemagne. These appeal to his interest, follow naturally upon the myths and fables of his earlier years, and pave the way for the tale that the child of this age craves—the true story of action and heroism.

The same general principles guide us both in the poetry and in the prose selections. In the former it is especially important that a wise choice be made, for the children have reached a stage where they are inclined to discountenance verse and there is danger that they will grow up with the distaste for poetry that is only too general. If poetry is, as Matthew Arnold says, "simply the most beautiful, impressive, and widely effective mode of saying things," it is well worth while to cultivate a love for it. This may be accomplished not alone by the choice of the poems to be studied but by the method of study as well. A recent writer[1] says that the dislike for poetry is due to our treatment of it—"we try to extract instruction from what was meant to give us joy." If then our choice be a wise one, and if we read the selected poem for its beauty, its music, its sentiment, it will not only consciously give us pleasure but it will unconsciously quicken the imagination as nothing else can do.

Besides the principles of selection outlined above, that of relating the work in literature to the other work of the grade enters as one of the determining factors. In fact, much of the literature of this year is suggested by the course of study in history which begins with the decline and downfall of the Roman Empire and the migration of the German tribes, and follows with a study of mediæval Europe, including the period of exploration which resulted in American colonization. This is historically a period full of idealism and of heroic achievement, and as such has been the inspiration of many a work of literature. Thus an opportunity is given to correlate the reading with other subjects naturally, without sacrificing the higher interests of literary study. Of course historical novels and poems are not regarded as history, but are studied from a purely literary point of view.

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[1] Samuel Crothers in *The Gentle Reader.*

During the early part of the school year several of Macaulay's "Lays of Ancient Rome" are read. In stirring verse such as that of "Horatius" no so-called "devices" need be resorted to on the part of the teacher—every child will thrill at the picture of the "dauntless three" keeping the bridge against the hordes of invaders: every child will hold his breath when the hero plunges "headlong in the tide." There are innumerable methods of approach in taking up a poem of this kind. One is as follows: The work in history has already recalled the situation of Rome and the enemies that threatened it during the later years of the Empire. The children are now ready to compare this condition with the earlier one described in "Horatius." A few words on the part of the teacher, perhaps a rapid sketch on the board, will put the setting clearly before the class. The poem naturally divides itself into parts. The teacher may read the first part aloud—the picture of the great Etruscan army marshalling under its proud leader—and after the reading discuss its incidents with the children. They may then take the book home and read the second part to themselves and discuss it with the teacher the following day. When the poem has been read through it is often briefly outlined with the class as follows:

Scene I—The Etruscans.
How they assembled their forces.
" II—The Romans.
How they prepared for defence.
" III—The Combat.
" IV—The Escape of Horatius.

Then the different scenes are compared and reread. The group of stanzas that "draws the clearest picture," "the most exciting stanza," "the most beautiful one," are in turn selected and read until the whole poem is familiar by frequent repetition. The children are then asked to commit to memory two or three of their favorite stanzas. The easy rhythm, the meter, and familiarity with the piece make this a surprisingly simple task, and by the time the various favorites have been recited, the children know much of the poem by heart. Thereafter throughout the year a frequent request is "Let us see how much of 'Horatius' we can recite!" and it is rehearsed with never-flagging enthusiasm. Here is a lesson in patriotism that does not need to have its moral pointed by the teacher. The children are in perfect accord with the sentiment—

> "And how can man die better
> Than in facing fearful odds,
> For the ashes of his fathers,
> And the temples of his gods?"

They have now reached a period in history that is particularly rich in legendary lore; and while the time possible to devote to its literature in school is too limited to give more than a glimpse of its charms, this glimpse is so full of promise that many of the children are inspired to continue this line of reading at home. Two or three of the legends of King Arthur and the story of Roland are usually selected for this work. Here again the chivalrous sentiments of the knights, their loyalty, and their courage impress themselves unconsciously upon the impressionable reader. Sometimes the teacher reads one of these stories to the class, sometimes one of the children, having prepared himself beforehand, reads to the rest, and again the story is read at sight in the classroom and talked over then and there. As these tales are read for the interest of the incidents and for simple character-study, rather than for the subtler points of structure and style, no special preparation is needed, except in cases such as that referred to above, when a child reads in order to give pleasure to his classmates.

Children of this age will read stories of adventure, good ones if they are brought into contact with them, indifferent or poor ones if the good are not at hand. This is the opportunity for the introduction of Sir Walter Scott's romances. If the child once falls under the spell of this master, he will no longer be content with the tales of boyish bravado and mock heroics with which the market is flooded. Some teachers feel that *Ivanhoe* is difficult reading for sixth grade pupils. It is true that the paragraphs are long, the sentences often involved, and the vocabulary replete with unfamiliar words, but these are after all minor details. The characters are so real, so human, the pictures so vivid, the scenes so dramatic, that all difficulties of technique are forgotten in the fascination of the story. We apply the adage, "There are millions of truths that men are not concerned to know," freely to our needs and do not stop to analyze references to "the children of Ammon" or "the dragon of Wantley." Neither do we devote ourselves assiduously to the dictionary to find the exact meaning of such words as heptarchy, pursuivants, or phlebotomy. We regard these as "honorable points of ignorance," and in spite of them laugh at Wamba's jests, applaud Gurth's loyalty, yield to the fascination of the Black Knight's mysterious personality, wax indignant at the persecution of Isaac, glory in Rebecca's fortitude. In fact we live and have our being for the time with these characters that are as real to us as our daily companions—and through all we are insensibly led to see the beauty of honor, and truth, and courage, whether they exist in the lowliest serf or in the king on his throne.

As the style of the author is less simple than that to which the children have been accustomed, it may be well for the teacher to read the opening chapters aloud, the children finding on their maps the historical setting of the story; or the teacher may describe the scene in her own words and tell enough of the early incidents of the tale to make the children eager to go on with it. Of course, in as long a selection as *Ivanhoe*, much of the reading is done at home and merely discussed in class. To test the home reading the children are frequently asked to illustrate by a drawing certain descriptive paragraphs, or to compare orally some phase of life of the mediæval period with that of our own, as a Saxon castle with a home of the present day. Sometimes the teacher spends the first ten minutes of the literature lesson in questioning rapidly as to the events that were recorded in the home reading, sometimes the children come prepared to ask one another questions on this work, and frequently a single child is called upon to give a clear but brief summary.

The majority of the children invariably read ahead and finish the book long before the allotted time, but this does not dampen their ardor in the least for any especially fine scenes that may be read in class or for the discussion of the details of the story. A favorite bit of character-study consists in finding the various incidents that bear testimony to the fact that Wamba was more wise than foolish, that Isaac loved his daughter better than gold, or that Cedric was ready to sacrifice his own interests to those of the Saxon race. Another exercise that is valuable as a general summary, and that affords an opportunity for selection and arrangement of material, consists in giving orally or in writing a history of the individual characters of the book. Sometimes each member of the class takes a different character and follows his fortunes from the time he appears in the story until his career is ended.

Ivanhoe readily lends itself to dramatization, and the children love nothing better than to commit certain scenes to memory or to reproduce them in their own words, borrowing many a phrase from their author. Rebecca may mount a desk instead of a turret, but this does not make her sentiments less lofty nor her language less impassioned as she prepares to hurl herself to death—if need be. Occasionally a class selects a scene here, and another there, and weaves them together into a play. Then a little simple costuming is allowed and perhaps another class invited to see the performance.

With some classes the reading of *Ivanhoe* is followed by that of *The Talisman*. Frequently this is only well begun in school and finished at home. One result may be definitely counted upon from this work. A large number of each year's class will read one or more of Scott's other tales at home before the year is finished and many will have contracted a love for the author that will prove a pure delight for years to come. In connection with *Ivanhoe* some of the Robin Hood ballads are read, and Howard Pyle's *The Merry Adventures of Robin Hood* is kept on the reading table, where it is accessible whenever a leisure moment presents itself.

Later in the year, when the interest of the class shifts from the old world to the new, through their study of history, Longfellow's *The Courtship of Miles Standish* is read and Irving's *Rip Van Winkle* and *The Legend of Sleepy Hollow*. The first is in line with the controlling thought of the year. In this a picture of indomitable courage, of perseverance, of high ideals is again presented to the children, but stripped of the glamour of knightly trappings. Their study of the Pilgrim settlement gives the geographical setting necessary to appreciate the poem, the historian gives the facts, and the poet's art makes these facts intimate personal experiences, so that the children are deeply impressed with the sufferings and hardships of that first Puritan winter, and with the patient endurance with which these trials were met. The method of study in this case is similar to that of "Horatius." The various scenes are read and discussed, favorite passages selected, and the characteristics of the principal personages passed upon with approval or disapproval.

It is especially fitting that the New York boy and girl should become familiar with Irving's works. As the "father of American literature," as a New Yorker himself, as a chronicler of their own ancestors and of their own surroundings, he has a special claim upon the interest of the children. When one adds to this Irving's ready humor, his quick sympathy, his suggestive fancy, it is no wonder that he becomes a favorite. Rip Van Winkle's pathetic career and Ichabod Crane's grotesque figure move the children to tears and to laughter. The fun is obvious and they enjoy it heartily. The underlying lessons are merely hinted at, but children are quick to take a suggestion, and there is nothing lost by the author's reticence. The children are so familiar with the region of which Irving writes that they compare his descriptions with their own impressions and appreciate the art that clothes familiar scenes with the charm of romance. Most of this reading is done at sight in class, as these stories are essentially tales to be enjoyed together. In fact there is little occasion for question or for discussion—the author needs no interpreter. The children realize Rip's weakness but invariably decide that his "neighborliness," his kindness to his dog, his sympathy with the children of the village, go far to atone for his faults. In fact they regard him with the pity that is akin to love. *The Legend of Sleepy Hollow* is a close second in their hearts, and Ichabod Crane, with all his absurdities, is a source of unmitigated delight from the moment he appears until his mysterious disappearance.

Besides the literature outlined above many short poems are read. These may be suggested by the season, by some anniversary, or they may be of interest for some other reason. The method of study depends, of course, upon the character of the selection. It is safe to say, however, that the first presentation is a complete reading in order that the children may have the poem before them as a whole. They are encouraged to tell why they like it, and to select the lines that appeal to them as being particularly effective, musical, strong, or beautiful. It is then read again and often reread until the class enters heartily into the spirit. If the selection is worth while, this repetition is a pleasure rather than a matter of indifference. The children often testify that they did not care much for a poem the first time they read it, that they liked it better the second time, and that they "love it now."

The work thus far described deals with the reading to which a definite literature hour is assigned on our programs. There are in our school life, however, other opportunities for acquainting our children with good English. The most important of these is afforded by the daily opening exercises of the school, at which portions of the Bible are regularly read aloud. We frequently hear the charge made that the rising generation interpret a reference to Greek mythology far more intelligently than one to Biblical history, that they are more familiar with the *Iliad* of Homer than with the Psalms of David, in short that they are wofully ignorant of the greatest English classic. The pupils of the Horace Mann School should not find it necessary to plead guilty to this charge, for they hear the old Bible stories, the psalms, the proverbs, the parables, and other portions of the Old and New Testament read and reread with a repetition that cannot fail to insure familiarity. Once a week these opening exercises are held in the individual classrooms where some little study of the Bible, though from a purely literary standpoint, is possible.

Another exercise to which the class devotes fifteen or twenty minutes each week takes the form of an entertainment which a group of the children plan and carry out for the pleasure of the others. This may consist of several recitations, of the reading of two or three good stories, or of the dramatization of some selection in which the class has become interested. This exercise has a twofold object: it is designed both to furnish an additional opportunity for developing literary appreciation and judgment, and to train the children to feel that their ability to read and recite should be used for the pleasure of others as well as of themselves.

Throughout the course, memorizing is made a feature of the work in literature. Several of the finest psalms and from six to ten poems are committed to memory by the class each year.

The list varies from time to time, but general favorites are the 19th, 23d, 24th, and 103d Psalms, Scott's "My Native Land," Burns's "My Heart 's in the Highlands," Motherwell's "The Cavalier's Song," Tennyson's "Charge of the Light Brigade," and Barry Cornwall's "The Sea." This learning of a poem follows its reading and discussion. Occasionally it is made a class exercise, teacher and children working at it together, sometimes in concert, sometimes silently, with only occasional consultation to compare progress and method. Again the learning is done at home and simply the results given the following day in school. As this work is carried throughout the grades, the children should have a fairly good stock of standard English verse at their command by the time they complete their elementary course.

To summarize briefly, we are so fully convinced that literature is a dominating force in the development of mind and character, that we neglect no opportunity to surround our boys and girls with its influence. We attempt to cultivate a love and an appreciation of what is fine by placing in the hands of the children selections that have value in themselves and have an added value in that they are of a nature to appeal to their interests. If by such means we succeed in giving our children a taste for good reading and a growing discrimination as to what is good, we are providing them with a resource within themselves that will go far to insure a happy future, and at the same time are furnishing them with the ideals that will tend to make them of use to their fellow-men.

M. F. K.

LANGUAGE

GRADE VI

The children of the Horace Mann School come to us with the ability to use their mother tongue fairly well. The majority of them are born and bred in the atmosphere of good English, the home thus aiding the school in fostering its use. The teacher is consequently spared many of the problems that face those whose pupils come to them with an inheritance of illiteracy. The grosser errors of speech are so infrequent that comparatively little time need be devoted to them, with the result that the school finds opportunity to train the children in the nicer distinctions of language that are the indication of true culture, to help them to express themselves with greater precision, ease, and grace, and to give them a working command of the technicalities necessary to clear written expression.

By the time the children reach the sixth grade much has been done along all of these lines. They have been encouraged from the first grade up to talk freely on subjects that interest them, their vocabularies have been enlarged by their reading and memorizing as well as by their contact with new companions and a new environment, they have learned to write legibly and with a reasonable degree of speed, and they have mastered the rudiments of spelling, of capitalization, and of punctuation. From this enumeration it might seem as though little were left for the upper grades to do; but it is just in these grades, when the formal side of the work no longer proves too great a stumbling-block, when the use of an unnatural medium of expression becomes fairly natural and more or less instinctive, that composition can be said even approximately to fulfil its mission—"the training of the mind through the acquisition and expression of ideas."

The daily recitation, whether it be in history, geography, or in some other study of the curriculum, offers frequent opportunity for training in oral expression. The method of the recitation —involving, as it does, the discussion of topics under consideration, the relation of personal experiences, and the description of incidents and events connected with the subject of the lesson —results not only in active thinking on the part of the children, but in a natural, spontaneous style of expression as well.

Since oral language thus forms so prominent a feature of the school work, the English period proper is largely devoted to written composition and to such exercises in language and grammar as tend to clear written expression. Certain definite principles guide us in our composition work, and adherence to these principles has gone far to remove the ban from this comparatively slow and laborious method of conveying ideas. In the first place we ask the child to write, not upon vague, general themes, but upon definite, interesting topics about which he has something to say; we ask for short written exercises in order that the mechanical labor involved may not seem a herculean task; we require written work so frequently that it becomes a customary and natural thing to write thoughts instead of speaking them; and finally we furnish an incentive for the work in the class reading and criticism which is a feature of every composition exercise.

Again we have recourse to the studies of the grade for themes. From history we select such topics as, "Life in a Mediæval Castle," "How a Squire Became a Knight," "Henry the Navigator"; from geography, "My Trip up the Nile," "Across the Saraha by Caravan"; from nature-study, "How to Make a Barometer," "Snow Crystals"; from literature, character sketches such as "Wamba, the Jester," and "Rebecca" suggested by the reading of *Ivanhoe*. At other times when the children are deep in mediæval lore, they try their hands at writing a thirteenth-century romance. The bare suggestion of a story is sometimes given them, as

SCENE—
  A gloomy castle in a great forest.
CHARACTERS—
  A knight in armor.
  An imprisoned princess.

It is interesting to notice that in this work the hero is usually "clad," not "dressed," in full armor, that he rides a prancing "charger" or "palfrey," instead of a "horse," and that he rescues a "damsel" rather than a mere "girl." These are encouraging signs that the children are beginning unconsciously to adapt their style to their theme.

The advantage of selecting composition subjects from school studies is obvious. By this means the children are furnished with topics in which they are already interested, upon which they have clear ideas, and the main features of which they have heard emphasized. This preparation tends to produce spontaneous expression and a style that is clear and to the point. We do not, however, confine ourselves to writing upon themes drawn from the other studies of the year, but plan frequent exercises that call the individuality of the child more fully into play, such as writing letters, accounts of personal experiences, and descriptions of things seen. Among themes of this kind that have been found valuable are, "An Amusing Incident of my Vacation," "An Exciting Experience," "An Outgrown Belief," "How I Learned to Skate," "How to Play Volley Ball," as well as letters to friends, to business houses, and occasionally to imaginary acquaintances.

In regard to the method employed in teaching composition, few definite rules can be laid down. More often than not a simple outline is arranged by the pupils with the help of the teacher. Occasionally each child makes his own outline without assistance, and not infrequently the writing is done without the guidance of formal headings. The preparation for written composition also varies with the subject. Sometimes careful oral work precedes it, while at other times the only preliminary consists in the planning that each child is expected to do before he begins to write. Sometimes, after the children have the general outline of their compositions well in mind, they set to work to devise as attractive an opening paragraph as possible, and each child reads his attempt aloud. All the beginnings that appeal to the class as being particularly good, that give promise of something interesting to follow, are retained by their authors; the others are cheerfully rewritten, the desire to reach the standard set by the class proving a sufficient incentive. At other times the introductory paragraph of some good author is read and the children imitate it closely in their own work. In fact, good models are used frequently to emphasize or illustrate the point under consideration. For instance, if the class compositions reveal, through the frequent repetition of words or phrases, a vocabulary inadequate to the needs of the subject, not only are synonyms for the troublesome words called for, lists written on the blackboard, and substitutions made, but an author that deals with the subject under discussion is consulted when feasible, and his method of avoiding repetition is noted. In this connection the children have copied from Tennyson's "The Brook" all the words that the poet uses to describe the *flowing* of the brook.

When the compositions are completed the best are selected either by the teacher or by a committee of the children and read aloud, or every child reads his own paper. The plan followed in the correction varies with the particular end the teacher has in view. When she is working primarily for an interesting style, she may practically ignore features that are most emphasized when sentence structure is the leading thought. In the latter case the teacher must be the main critic, in the former the burden of the criticism may be thrown upon the children themselves, who listen with flattering attention to an interesting story but grow restless when called upon to hear one that is "dry." Occasionally a set of papers receives no further individual attention than the criticism which follows the oral reading. As a result of this a child sometimes rewrites his paper, or perhaps quite as often he acts upon the suggestions offered in his next piece of written work. When compositions are not corrected individually as to form, the common mistakes, such as misspelled words, awkward repetitions, incorrect punctuation, careless writing, or poor arrangement of work are made the subjects of special class exercises. In other instances each paper is carefully corrected by the teacher and rewritten by the pupil.

Spelling. The subject of spelling receives its full share of attention in the sixth grade, though no text-book is used. Words are selected from other studies of the curriculum and from magazine and newspaper articles, and sentences, paragraphs, and stanzas of poetry are frequently dictated. It is far more difficult to unlearn an incorrect form than to learn a correct one. Everything possible is done to avoid the misspelling of words in all forms of written work. With this end in view, written lessons in geography, history, or in other subjects of the grade are preceded by drills in spelling which include such words as are likely to be needed in the written work. The dictionary also is resorted to whenever a child feels himself in doubt.

As correct spelling is dependent upon correct mental images, many exercises are given to train the children to form such images. As an essential step in the process we first direct attention to the accurate observation of words. Accordingly the children make lists of the words on a page that contain silent letters, of all those that have the same suffix, the same prefix, of those with the "ie" combination, or that double the final consonant—in fact, anything is resorted to that has the effect of concentrating the mind upon the form of words. The lesson, whether it consists of words or sentences, is sometimes dictated immediately after such study, while again the work is taken home and given further attention in preparation for the next day's recitation.

Grammar. The tendency of modern English teaching to postpone the study of grammar to the higher grades meets with hearty sympathy in the Horace Mann School. In fact, though the systematic study of grammar begins in the sixth grade, its treatment is such that the subject can hardly be regarded as the formal, abstract science that we are accustomed to associate with that name.

The following topics are considered during the year:—

1. Analysis of simple sentence into subject and predicate.
2. Parts of speech—noun, pronoun, verb, adjective, article, adverb.

The children have been writing sentences for years; it is but a step further to think and speak of the sentences as made up of two parts, the subject and the predicate. The essential word or words of each part are next selected, as the simple subject and the simple predicate. Each part of speech is carefully developed and made clear by numerous examples beginning with the simplest forms, but as training in thought is the most important function of grammar we do not hesitate to emphasize, at a very early stage of the work, that the part of speech to which a word belongs depends not upon the word itself but upon its use in the sentence. Consequently by the middle of the year the children should be able to appreciate the fact that the same word may be at different times a noun, a verb, and an adjective, and to characterize it in clearly defined cases like the following:—

1. He heard the *chiming* of the bells.
2. The bells *are chiming* merrily.
3. The *chiming* bells make sweet music.

Thus while we train our children to reason as to the function of words, we expect them to recognize only the simpler constructions, leaving for the seventh grade such difficult forms as relative, demonstrative, and interrogative pronouns, and the more complicated phrasal verbs.

Throughout the year the work in grammar is closely associated with the literature and composition, often proving an aid in the interpretation of the former and in the correction of the latter.

If, as has been said, the ability to speak and to write good English is the highest test of mental cultivation, we cannot hope to graduate our children in the art at the end of the elementary course. Every step that they take, however, carries them nearer to this goal and gives them greater power over themselves and over others.

M. F. K.

HISTORY

GRADE VI

The subjects of study for the sixth year are mediæval history and the period of discovery, exploration, and colonization in America.

Before entering the sixth grade the child has studied ancient history. Here he has learned to look upon history as a succession of world empires. The study of the mediæval epoch brings before him a new set of ideas, for such words as *king*, *government*, *army*, *general*, *learning*, and *culture* have lost their old meaning. Since we are teaching history to sixth grade pupils we are ever careful that our work is not beyond their comprehension; therefore, only the distinctive features of this period with their causes and tendencies can be dealt with profitably.

A study of the middle ages is peculiarly suited to the biographical form of treatment, and we become interested in Alaric, Theodoric, Attila, Clovis, Alfred, Charlemagne, Richard the Lion-hearted, Joan of Arc, and others. The work begins with a review of Roman history to show the power and extent of the Empire at its age of greatest splendor; this is followed by a study of the conditions which make possible the great barbarian invasions. The various migrations are then treated in detail and the general characteristics of the German tribes are brought out and compared with those of the Romans and the Greeks. Contrasts are made especially in regard to homes, personal traits, methods of warfare, and forms of government. With most of the invaders we spend only enough time to note the causes of their failure to establish for themselves any lasting power on Roman soil. The Franks, who finally dominated the other Germanic nations, are studied more fully. The growth of a German Empire, the "Holy Roman Empire of the German Nation," is followed until its purposes, extent, and nature are made known, and its relation to the old Roman Empire and the Empire in the East is understood.

The great features of this period, viz., the Christian church, feudalism, and the crusades, are considered, though in a very elementary way, because some knowledge of their development and results is necessary to form a conception of life in mediæval times. In the organized Roman church with its far-reaching influence over the lives and ideas of all the European peoples we find a successor of the Roman Empire. As the great common possession, guiding and controlling the life of the individual and the state, it receives especial attention.

Feudalism is shown to be the outcome of the conditions following the long-continued period of the invasions. It is taken up as a period of confusion out of which grows a new way of doing things and a new method of getting along in the world. A plan of development along the following lines is found helpful:

(1) We note the destruction of the old forms of government and the existence of no central power; (2) we picture the growth of self-reliance by showing how a few men with interests in common finally make a stand against the invading enemy; (3) we depict the inevitable rise of a leader and the necessity for the building of those fortresses called castles; (4) we bring out the fact that this leader develops into a military lord and establishes a new form of government; (5) we follow the progress of the feudal government and observe its development into an organized system; (6) we consider the duties and obligations imposed upon the various participants in this system. Feudal society is studied by lessons on the life of the castle, village, and monastery; and later we regard the rise of a middle class by lessons on the growth of cities and trades. In chivalry we find an idealized state of thought and action due to the devotion to higher and better things as well as to an awakening to the responsibilities of feudal power.

The first crusades are studied as a natural outcome of the zeal inspired by the teachings of the church and the power possessed by the papacy; in the latter crusades the love of arms and the influences of chivalry are brought out. In connection with the crusades we trace the growth of Mohammedanism and make plain the chief characteristics of Mohammedan life and teaching. The results of the crusades make the foundation upon which we build to get the change of ideas and habits of life that lead to the Renaissance. In particular, the freeing of the mind, the changes in methods of warfare, the growth of trade, and the improved methods of navigation are emphasized.

By giving the child the above general view of the history of the middle ages we aim to help him to a better understanding of American history. The necessity of finding new trade routes to the East leads us to this study. We now begin a particular account of the discovery of new worlds, both in the East and in the West, and the conquests and settlements made in the Americas.

If we are to understand the work of discovery and exploration we must keep constantly in mind the ideas of geography as shown by the old maps actually in use at that time. Emphasis is placed upon the right of any nation to claim and hold new territory. Comparisons are made between the colonies established by the Spanish, French, and English, and definite ideas are given of the extent of territory claimed by each of these nations. When the more detailed study of the English colonies is begun we briefly review the conditions in England in the early part of the seventeenth century. The Virginia, New York, and Plymouth colonies are studied at some length and used as types of the southern, middle, and New England groups respectively. The settlement in Virginia is followed in detail to secure a clear idea of the life and institutions of the people and to bring out the chief characteristics which marked this as a typical Southern colony. Maryland, the Carolinas, and Georgia are then taken up sufficiently to show their location, history, importance, and relation to the other colonies. In a similar way we look upon colonial life in New York and Massachusetts and make comparisons with Virginia. We select only a few topics for study, but these are investigated with enough detail to leave a definite impression on the pupils. The course ends with a general summary which brings out the points of difference between the various colonies.

The work is carried out in the order indicated by the following outline:

HISTORY OUTLINE

Roman History.

I. Early history of Rome.

1. Brief review showing (a) the beginning of the city,

(b) the kings of Rome, (c) the Roman Republic, (d) the Roman Empire.
2. Manner of acquiring territory.
3. Treatment of subjects—Romanization.
4. Peoples conquered by the Romans.

II. The Empire about 400 A.D.
1. Extent—"Frontier."
2. Government.
    (a) Central. (b) Provincial. (c) Division of the Empire.
3. Internal conditions.
    (a) Social. (b) Industrial. (c) Political. (d) Religious.
4. External conditions.
    (a) Foreign menace. (b) Equipment for defence.

The Ancient Germans.

I. Who they were.

II. What they were.
1. Individually.
2. In character.
3. Politically.
4. Socially.

III. Attitude toward civilization.

IV. Relations with the Romans.

V. Location of tribes about 400 A.D.

The Barbarians and the Roman Empire.

I. Invasion of the West Goths.
1. Causes.
2. Entrance into the Empire.
    (a) Conditions on which they were allowed to come.
    (b) Where they crossed.
    (c) Treatment they received from the Roman soldiers.
    (d) Results.
3. Events of their wanderings.
    (a) Rise of Alaric.
    (b) Battle of Adrianople.

- (c) Invasion of Greece.
- (d) Invasion of Italy.
- (e) Sack of Rome.
- (f) Death of Alaric.
- (g) Policy of new leader.

4. Where they settled.

II. Invasion of the Vandals.
  1. Causes.
  2. Description of wanderings.
  3. Where they settled.
  4. Results to themselves and the Empire.

III. Invasion of the Burgundians.
  1. How they started.
  2. Where they crossed.
  3. Where they settled.
  4. Their legends.

IV. Invasion of Angles and Saxons.
  1. Condition of Britain.
     - (a) Under Roman rule.
     - (b) After Roman evacuation.
  2. Character of invaders.
  3. Causes of invasion.
  4. The Heptarchy.
  5. Work of King Alfred.

V. Invasion of the Huns.
  1. Origin and character of the Huns.
  2. The kingdom of Attila.
  3. Description of raids.
  4. Their defeat.
  5. Results of the death of Attila.

VI. Invasion of the East Goths.
  1. Condition of the East Goths before the death of Attila.
  2. Causes that led to the invasion.
  3. Where they settled.
  4. Work of Theodoric.

VII. Invasion of the Lombards.
  1. Whence they came.
  2. Where they settled.

VIII. Summary.
  1. Effects of the various invasions upon Europe
  2. Relations of the Germans and the Romans.
  3. Failure of early German kingdoms.

Life and Institutions of the Middle Ages.

I. The Christian Church.
  1. Christianity and the Roman Empire.
    (a) Treatment of early Christians.
    (b) Reasons for adopting Christianity.
  2. Church growth.
    (a) Government of the Church.
    (b) Work of missionaries.
    (c) Ways in which Christianity was adopted.
  3. The Church in the Middle Ages.
    (a) What it did for the people.
    (b) Its relation to the state.
    (c) Its intellectual supremacy.
  4. Cathedrals.

II. The Franks.
  1. Their invasion.
    (a) Entrance into the Empire.
    (b) Settlement in Gaul.
    (c) Treatment by Roman Empire.
    (d) Reasons for their strength.
  2. Their kingdom.
    (a) Condition of Franks when Clovis became king.
    (b) Consolidation of tribes.
    (c) Expansion.
    (d) Extent of kingdom on death of Clovis.
    (e) Successor of Clovis.

III. Charlemagne.
  1. As a man.
  2. His kingdom.

    - (a) Extent of kingdom and condition of Franks when Charlemagne became king.
    - (b) Conquests made.
    - (c) Efforts at culture.
  - 3. His empire.
    - (a) Extent.
    - (b) Charlemagne's relation to the Pope.
    - (c) The coronation.
    - (d) The new government.
    - (e) Why the power of the Franks was permanent.

- IV. The Northmen.
  - 1. Their homes and occupations before the raids.
  - 2. The raids.
    - (a) On coast cities and towns.
    - (b) On Paris.
    - (c) On Italy.
  - 3. Their conquests.
    - (a) In the two Sicilies.
    - (b) In Normandy.
    - (c) In England.

- V. Feudalism and Chivalry.
  - 1. Feudalism.
    - (a) What it was.
    - (b) How it began.
    - (c) Reasons for its growth.
    - (d) The importance of land in this system.
    - (e) Ceremonies.
    - (f) Feudal rights and obligations.
  - 2. Chivalry.
    - (a) Origin and relation to feudalism.
    - (b) Ideals.
    - (c) Ceremonies.
    - (d) What it accomplished.
    - (e) Causes of its decline.

- VI. Mohammedanism.
  - 1. Origin.
    - (a) Religious belief of Arabs.
    - (b) Mohammed and his teachings.

2. Cause of rapid growth of the new religion.
3. Invasion of Mohammedans.
   - (a) Condition of southern Europe at this time.
   - (b) Conquests made and extent of territory claimed.
   - (c) Result of action taken by the Franks.

VII. Crusades.

1. Introduction.
   - (a) What they were.
   - (b) When they took place.
   - (c) What people were engaged in them.
   - (d) What inspired them.
2. The First Crusade.
   - (a) Motives for starting.
   - (b) What people took part.
   - (c) How the companies were organized.
   - (d) Line of march.
   - (e) What was accomplished.
3. Government of the Holy Land.
4. The Third Crusade.
   - (a) What people took part.
   - (b) Route followed by each army.
   - (c) Relations of the leaders.
   - (d) Results.
   - (e) King Richard.
5. The Children's Crusade.
   - (a) Origin.
   - (b) Organization of the two bands.
   - (c) Line of march of German children.
   - (d) Line of march of French children.
   - (e) How it ended.
6. Reasons why the crusades failed.
7. Results of the crusades.

VIII. Papacy and the Empire.

1. Relation of Papacy to Europe.
2. Relation of Empire to Europe.
3. Struggle of the popes and the emperors.
4. Condition of the Church as a result of these struggles.
5. The Protestant revolt.

IX. Life of the Castle.
  1. The castle.
    (a) Where it was built.
    (b) By whom it was built.
    (c) What it was like.
  2. The lord of the castle.
    (a) His duties.
    (b) How he spent his time when at home.
  3. Other inmates of the castle.
    (a) What their duties were.
    (b) How they amused themselves.

X. Life of the Monastery.
  1. Reasons for establishing monasteries.
  2. What a monastery was like.
  3. Government of a monastery.
  4. Life and work of the monks.

XI. Life of the Village.
  1. The peasant.
    (a) His condition and his home.
    (b) His occupations and his pleasures.
    (c) His duty to his lord and to the Church.
  2. Manner in which land was apportioned.

XII. Life of the Town.
  1. Mediæval cities.
    (a) What the German barbarians and the Romans thought of cities.
    (b) How and where they grew.
    (c) How they gained independence.
  2. Growth of a middle class.
    (a) Their homes.
    (b) Their occupations.
    (c) Their guilds.
  3. Growth of trade.
    (a) Position of Italian cities with regard to the revival of trade.
    (b) How trade was carried on with Europe.
    (c) How trade was carried on with the East.

XIII. Some of the things which brought the middle ages to an end.
  1. The Crusades.
  2. The Hundred-Years War.
  3. The revival of learning.
  4. Introduction of gunpowder.
  5. Improved methods of navigation through the use of (a) the compass, (b) the cross-staff, (c) the astrolabe.
  6. Impulse given to commerce by the crusades.

American History.

I. The new trade routes.
  1. How Europe came to wish a new trade route to India.
    (a) The things in the East Europe wanted.
    (b) What the old routes were.
    (c) Why the old routes could no longer be used.
  2. How the new routes were discovered.
    (a) The plan and discoveries of the Portuguese.
    (b) The plan and discoveries of the Spanish.
    (c) The plan and discoveries of the English.

II. Work of the discoverers and explorers in the New World.
  1. The claims which these discoveries gave to each nation and what each nation had to do to make them good.
  2. How the Spanish tried to explore and make good their claim.
    (a) The parts they explored.
    (b) The nature of an exploration and its difficulties.
    (c) The knowledge and claims resulting from Magellan's voyage.
    (d) The attempt at colonization.
    (e) The wealth and power resulting to Spain.
  3. How the French explored and made claims in America.
  4. How the English explored and made claims in America.
  5. Relation between the French, English, and Spanish

III. Characteristics of the country and natives about 1600.
  1. What things of to-day we would have to forget to have an idea of what the country was like then.

2. What the Indian was like personally.
3. How he made his living and spent his time.
4. What territory was held by the Algonquins and Iroquois.
5. How the Indians helped and hindered the white men.

IV. The growth of the colonies in America.
  1. Some ideas of the times about colonies and new countries.
    (a) What a country must do to keep its claim.
    (b) The right of the Pope to distribute the new land.
    (c) The necessity of getting written rights from some one.
    (d) The relation of the colony to the mother country.
  2. The two great companies.
    (a) The object of these companies.
    (b) What the various people concerned expected to get out of this scheme.
    (c) The territory granted to each company.
    (d) How the colony was to be governed.
  3. The Virginia colony.
    (a) The kind of settlers selected and why they were willing to go.
    (b) The journey.
    (c) Place chosen for the settlement.
    (d) What the colonists did at first contrasted with what they should have done.
    (e) How Smith helped the colony.
    (f) The beginning and growth of individual property.
    (g) The tobacco industry and its effect.
    (h) The beginning of self-government—the Assembly.
    (i) Encouragement of family life.
    (j) The beginning of slavery.
    (k) The founding of a college.
    (l) Summary to show the growth of the colony and its condition to about 1700.
  4. The other Southern colonies.
  5. The Plymouth colony.
    (a) The Pilgrims and their plans.
    (b) The voyage to the New World.

   (c) The first winter in Plymouth.
   (d) The dealings with the Indians.
   (e) Growth of the Plymouth colony.

6. The Massachusetts Bay colony.
   (a) The settlement made by the Puritans.
   (b) How they were governed.
   (c) The Puritan church.
   (d) Growth of the Puritan settlements.
   (e) Kinds of business carried on.
   (f) Founding of Harvard College.
   (g) Social condition.
7. The other New England colonies.
8. The New York colony.
   (a) The settlement made by the Dutch.
   (b) The beginning of New York.
   (c) Condition of the colony under Dutch rule.
   (d) Condition of the colony under English rule.
   (e) Rivalry of the two "parties."
   (f) Lord Bellomont and the pirates.
9. The other middle colonies.
10. General review of conditions studied.

At the beginning of the year's work the pupils start a chronological table, which grows with the course. This is found most helpful to a proper conception of the progression of time. The list here given is the one accepted and memorized by the class.

378 A.D.	Battle of Adrianople.
410	Sack of Rome by West Goths.
451	Defeat of Huns.
455	Sack of Rome by Vandals.
800	Charlemagne crowned emperor.
1095–1270	Period of Crusades.
1492	Discovery of America by Columbus.
1609	Hudson discovers Hudson River.
1620	Founding of Plymouth colony.

We cannot dissociate history from a study of geography if we expect to attain satisfactory results; therefore the use of maps is essential. We make an excellent wall map at a small cost by purchasing a piece of black-painted canvas and tracing with white paint a simple outline of Europe and enough of Asia and Africa to establish the boundaries of the Mediterranean

Sea. Any particular routes, positions, or boundaries under discussion can be readily marked upon it with crayon. We find this map invaluable in showing the extent of the Roman Empire; in pointing out the Roman frontier and the location of the barbarian tribes before the invasion; in tracing the wanderings of the invaders; in reconstructing the Western Empire after the invasions; in marking the routes taken by the armies of the crusaders; in showing the nations of Europe after the crusades, and in locating the rival cities of Italy and their trade routes to the East. When the period of discovery, exploration, and colonization is studied another wall outline-map of the world is needed. Paper outline-maps that can be placed in the hands of the children are also found very useful.

The text-books purchased by the pupils are Harding's *Story of the Middle Ages* and Fiske's *A History of the United States*. We by no means confine ourselves to these books; the school library and home library are constantly consulted, for the child is encouraged to go to various sources for his information, and where it is possible we read selections from the original sources of information. The great emperor seems less like a "history man" after reading Einhard's *Life of Charlemagne*, for here was one who knew him intimately. Marco Polo's story of his wonderful travels and experiences is eagerly pored over in connection with the lessons on the development of trade with the East; in the *Narratives of De Soto*, one's heart aches at the sufferings endured by the early explorers, and when reading the account of the Jamestown settlement in the *Works of John Smith* we are brought face to face with the hardships of those days. After such lessons, historic persons seem real and the child soon thinks and speaks of historic things as the results of human action.

In connection with the development of trade through improved methods of navigation, we are particularly fortunate in being able to show the pupils several old astrolabes made in the fifteenth century which belong to the collection of Professor David Eugene Smith of Teachers College. It certainly adds interest to our work to be able to tell the child that so far as its date is concerned one of these astrolabes might have been used by Columbus himself.

The life and institutions of the Middle Ages furnish plenty of fascinating material that appeals to children. When studying the ancient Germans we take up the fairy tale as an expression of their childlike mind and superstitions. The Burgundians after settling in the valley of the Rhone gave the story of Siegfried a permanent form. Then besides these there are the chivalrous tales of "King Arthur and His Court," the "Story of Roland," Charlemagne's favorite knight; and the "Merry Adventures of Robin Hood." With the study of the crusades we tell of the origin of the "Arabian Nights" while the "Story of the Forty Thieves" is discussed and compared with the tales of chivalry of western Europe.

In reference work we have the pupils use books which give the facts in greater detail than do their own texts, and wherever it is possible we give them books which they may read through. It is seldom we have to stimulate in our pupils a desire to read or to investigate some given topic—on the contrary they are very eager to read anything which bears on the work; our problem is rather one of directing their energy to reading that which is best and that which will prove of real service in establishing correct impressions.

S. H. U.

GEOGRAPHY

GRADE VI

Geography, though the oldest of the sciences, is called in the phraseology of the schools of to-day the "new geography." It is "new" not because discoveries have recently been made that revolutionize the old science, nor because the conception of what constitutes geography has undergone a radical change, but simply and solely because the school has only of late begun to form an adequate notion of the aim and scope of the subject. It is the "new geography" in that it now deals with relationships rather than with isolated facts, with principles rather than with scattered details. This modern view of the function of geography raises it from a study that supposedly "disciplines the memory" to one that exercises the power to reason; and with this higher conception of its purpose comes an added responsibility in regard to the selection of subject-matter and the method of its presentation.

Different circumstances suggest different ways of meeting this responsibility. The scheme evolved by the Horace Mann School has been outlined in the articles describing this work for the lower grades, but a brief résumé is necessary here in order to make clear the relation which the particular work of the sixth grade bears to the course as a whole. The subject is apportioned as follows:

3rd	Grade—	Home Geography and World as a Whole.
4th	"	North America.
5th	"	Europe and Asia.
6th	"	Elements of Physical Geography. Africa—South America—Australia.
7th	"	North America. Special study of the United States ending with a summary of the world's commerce and industry.

Though continent work is a feature of the course throughout four years, the point of view of the two later years is very different from that of the two earlier. In the lower grades attention is centered upon the industrial life of the people as influenced by their physical environment, in the higher grades upon this physical environment as the basis of commercial and social development. In the first study the children accept existing physical conditions, for the most part, and explain their influence upon life. In the more advanced study not only are the physical conditions carefully considered but the reasons for these conditions are investigated, their effect upon life in general observed, certain definite laws deduced, and these laws applied in the study of new regions.

For example, in the fifth-year study of Europe the children are told that the Mediterranean countries have heavy rainfall in winter and a dry season in summer. No explanation of this condition is attempted here, but the condition itself is considered as a factor governing the vegetation of the region and the occupations of the people. In the sixth year a careful study is made of the circulation of the air over the globe and of the characteristics of the various wind-belts, including their migration with the heat equator. Thereafter in the continent work, when a region such as the Mediterranean basin is under consideration, no arbitrary statement as to its rainfall is necessary. The section is located in regard to wind-belts and the previous study of the character of the winds makes it possible for the children to deduce the fact that this region, being subject to the trades in summer and to the westerlies in winter, experiences wet and dry seasons. The children, with the help of the teacher, thus evolve their own basis for inference as to the life conditions of the section. In other words, they are prepared in the higher grades to appreciate causes which in the lower grades are ignored.

The object of this work is not alone to furnish the children with a body of useful and interesting facts but to give them as well an understanding of some of the great laws of nature, to train them to observe closely along certain lines and to make use of their observations, and to accustom them to associate causes with their consequences and consequences with their causes.

To give these desired results most fully geography cannot be taught by the old text-book method, that is, the method by which the child memorizes a lesson assigned in the book and recites it in class. In fact, the text assumes a minor rôle in geography teaching in the Horace Mann School, being regarded not as a guide to be followed blindly wherever and however it may lead, but as an authority, rather, to be turned to for convenient summaries and for the verification of conclusions. These conclusions may be the result of observation, of experiment, or of the study of maps, globes, pictures, charts, and pieces of simple apparatus. Studied in this way, geography gives training in close reasoning in an important field, develops an inquiring attitude of mind, and stimulates the imagination, thus taking its place as a real educational force.

The physical geography topics which constitute the first part of the work of the sixth grade are presented according to the following outline:

I. The Earth as a Globe.
    1. Form—Evidences of curvature, proofs of rotundity, importance of shape.
    2. Size—Circumference, diameter, effect upon life.
    3. Motions.
        (a) Rotation.
            Evidences and direction, axis, poles, equator.
            Results—Day and night, points of the compass, local noon.
            Latitude—How measured, length of a degree, meridians, use.
        (b) Revolution.
            Results—Distribution of light, varying length of day and night; zones and boundaries.

II. The Atmosphere.
    1. Its relation to the earth, man's relation to it.
    2. Temperature.
        Thermometer.
        Distribution over land and water.
        Influence of ocean currents.
        Heat belts, isothermal lines, heat equator.
    3. Winds—Effect of temperature on circulation of air.
        Wind-belts (trades, doldrums, westerlies, horse

latitudes, polar winds), migration of the wind-belts, effect upon ocean waters.

4. Rainfall—Evaporation, condensation, fog, dew, frost, snow. Rain, distribution over earth, dependence upon temperature, winds, surface, etc.

III. Plant and Animal Life.

1. Dependence of plant life upon soil, temperature, and rainfall.
2. Vegetation regions located—forests, grasslands, deserts, tundras.
3. Dependence of animal life upon vegetation.
4. General distribution of animals.

IV. People.

The various races, their characteristics as influenced by environment, their distribution.

These physical geography topics are frequently introduced and supplemented by the nature-study of this grade, which is physical in character and thus often serves to elucidate the principles involved in the geography course. Again they are developed orally by means of discussion and simple experimentation. For instance, instead of reading from the text-book and memorizing the fact that the sun reaches its greatest height above the horizon exactly at noon, the children erect a vertical rod on a board and mark the shadow which it casts at frequent regular intervals for an hour before and an hour after noon. When they find that the shortest shadow is cast at exactly twelve o'clock, the position of the sun at that hour is not an item in the text-book that may or may not be forgotten, but it is a part of the knowledge of every child in the class.

Such a subject as the distribution of light during the northern summer is developed by a series of questions like the following: (The class has previously studied the distribution of light at the time of the equinoxes.)

1. Upon what part of the earth do the vertical rays of the sun fall at the time of the equinoxes?
2. What part of the earth is in light at that time? In darkness?
3. Where does the line of division fall?

4. Look at the season apparatus (or diagram). Where do the vertical rays of the sun fall on the 21st of June?
5. How far north have they moved since March 21st?
6. What part of the earth is in light at this time? In darkness?
7. Where does the line of division now fall?
8. Which hemisphere receives most light at this time?
9. What is the condition in regard to light at the north pole? At the south pole? At the arctic circle? At the antarctic circle? At the equator? In our latitude? In similar latitudes south of the equator?
10. How long will the northern hemisphere receive more light than the southern?
11. How long will the north pole be in light? The south pole in darkness?
12. What people live farthest north? Describe their life during the long period of daylight. Would you like to live in this part of the world? Give your reasons.
13. How long is the day at the arctic circle? How long is the night at the antarctic circle?
14. What do you think determines the position of the Tropic of Cancer? Of the Tropic of Capricorn? Of the Arctic Circle? The Antarctic?
15. Compare the position of the circle of light on June 21st with its position on March 21st.
16. Compare the length of day and night over the world on these two days.
17. Why do we not always have equal days and nights?
18. Where do you think the vertical rays of the sun fall on the 21st of December?
19. Describe the distribution of light over the earth at this time.

At the close of a lesson or series of lessons of this kind the children are possibly asked to take their text-books home and compare the conclusions they have reached with the author's account. On the following day they are held responsible for all points that were developed in class as well as for any additional facts that the text-book furnishes, and they are required to give evidence of their knowledge of the subject by means of oral or written recitations.

The topics in physical geography are followed by continent study, the principles deduced being applied to Africa, South America, and Australia. Africa is outlined below in some detail as representative of our general plan of continent work, and Egypt as an example of our study of individual countries.

AFRICA

1. Location—In regard to hemispheres, heat-belts, wind-belts, other continents, oceans, latitude, longitude.
2. Size—In comparison with other continents.
3. Coast-line—Extent, regularity, advantages and disadvantages, comparison with other continents.
4. Surface—Highlands, lowlands, their distribution, their characteristics, comparison with other continents.
5. Drainage.
    - Rivers—Nile, Congo, Niger, Senegal, Zambezi, Limpopo, Orange—their general direction, characteristics, value from standpoint of commerce and exploration.
    - Lakes—Chad—Location and relation to drainage. Lakes of Central Africa—reasons for size, importance.
6. Climate.
    - Temperature—Application of work on temperature of atmosphere to this continent, conclusions tested by reference to isothermal map.
    - Winds—Application of work on wind-belts to the winds of this continent.
    - Rainfall—General condition arrived at from knowledge of temperature, winds, surface. Specific condition from study of rainfall map. Regions of extremely light and heavy rainfall accounted for.
    - (Effect of climate upon exploration and development)
7. Vegetation—General distribution as dependent upon temperature, soil, and rainfall. Character.
8. Animals—Distribution as dependent upon vegetation. Character.

9. People—Distribution as influenced by climate, vegetation, etc. Races, characteristics.

EGYPT

Preliminary to the study of the topics outlined below, the interest of the class is enlisted in regard to the country. Some of the children may have friends who have been in that part of the world, some may have traveled there themselves, and in either case they are ready to give interesting accounts of the people, their customs and manners. Others have read of the ancient Egyptians and are eager to tell something of their civilization. The story of Joseph, from the Bible, is sometimes read to the class before beginning the study of Egypt in order to impress the fact that this country was the home of a great people thousands of years before Christ. Photographs are also shown illustrating the life of the people, the character of the country, etc. When interest has thus been aroused, Egypt is studied with the definite aim in view to discover the physical conditions that are responsible for the life of the region.

1. Location—Position in Africa, relation to Sahara, bordering seas, approximate latitude and longitude, direction and approximate distance from New York.
2. Surface—Highlands, lowlands, distribution and character.
3. Drainage—The Nile, its redemption of Egypt. Overflow —cause, time, effect, resulting ancient civilization which developed in Nile delta, and present conditions.
4. Climate.
    - Temperature—Approximate, from location. Specific, isothermal map.
    - Winds—Summer and winter—application of study of general wind-belts.
    - Rainfall—Approximate from knowledge of winds, specific from rainfall map.
5. Occupations.
    - Agriculture—Proportion of fertile and desert land. Irrigation, method, extent. Products, time of planting and of harvest. Tropical fruits.
    - Grazing—Animals raised, importance of occupation, reasons for prevalence.

Commerce—Products exported, imported, countries with which trade is carried on. Means of communication—Nile, Mediterranean, Red Sea, railways, Suez Canal (length, width, extent to which used, advantages) caravans (character, size, routes, merchandise).

6. Towns.
    Cairo—Advantages of position, character, importance.
    Alexandria—Character and extent of trade, ports with which it communicates.
    Port Said } Reasons for development.
    Suez }
    Khartum—Advantage of location.
7. People—Descendants of the ancient Egyptians, Arabs of the towns, Bedouins—their mode of life, religions, languages, relations to Turkey, to British Empire.

In the work on the continents as a whole, the consideration of topics is rather general in character, the object being to get the larger features in mind, a bird's-eye view as it were. In the study of the individual countries, on the other hand, far more detail is given in order that the children may regard life conditions that differ from their own with the appreciation that comes with fuller knowledge. The study of both continents and countries is essentially map study, the work being based upon wall maps for the larger features and upon the maps found in Longman's New School Atlas for the more specific. With good surface, rainfall, isothermal, vegetation, commercial, and political maps before the class almost every fact of importance can be discovered by the pupils. By this treatment the close sequence of cause and effect is borne in upon the child as he himself develops one from the other. For example, the physical map of Africa is all that is necessary to give the children the needful information in regard to the location and the larger surface features of Egypt. In the consideration of such a topic as the drainage of the country, the class again resorts to the map and finds that the whole length of Egypt is watered by the Nile. In the effort to understand the influence of this river upon the country, the children begin a study of its characteristics. They find that it empties into the Mediterranean through many mouths; they measure it roughly and see that, for a space greater than the distance from Maine to Florida, it receives no tributaries. The question then arises, "How can so great a river exist in the heart of this practically rainless region?" In search of an answer, the course of the Nile is traced toward its source and the discovery is made that it is fed by two great streams from the Abyssinian Highlands. The class now examines this region and finds that when the heat-equator shifts north these mountains are in the doldrum belt—the belt of heavy rainfall. The children readily see that these swollen mountain torrents feed the main stream with so great a volume of water that an overflow of its banks is the result. They then figure out the time of the inundation and speculate as to its effect upon the soil of the flooded region. The isothermal map, previous study of the wind-belts together with a map of the winds, and the rainfall map furnish all necessary data for an understanding of the climatic conditions of Egypt, and from the climate it is a logical step to the products and the resultant occupations of the people.

The principal cities, Cairo, Alexandria, Khartum, Port Said, and Suez are not simply located, but their situation and development are considered as the outgrowth of definite, natural causes. A study of the population map is next made. Nothing could afford a more striking illustration of the effect of physical conditions upon life than does this map—the great desert stretches with their scanty population and the narrow, fertile Nile valley with its teeming millions.

The map work is made vital at every point by reference to the human interests that are involved. When the rainless condition of the country is under discussion, photographs of the flat-roofed houses that are characteristic of the region are shown, as well as pictures illustrating its scanty vegetation; when the temperature is noted, the dress of the people is commented upon; when irrigation is considered, the Egyptian method is compared with the method in vogue in our own desert region; when the soil of the inundated plain is the topic, the primitive plow of Egypt is compared with that with which we are familiar.

Map study is also supplemented by reference work designed to further impress upon the minds of the children the ancient and modern civilization to which the annual inundation of the Nile has given rise. Definite topics are suggested for home reading in Carpenter's *Africa*, Tarr and McMurry's *Geography*, Dodge's *Geography*, and in the encyclopedia. These books are all available in the class room and the various references are assigned to different pupils and reported upon to the class either orally or by means of written papers. Throughout the work, photographs and lantern slides serve to make more realistic the various topics under consideration, while outline maps help to fix the location of mountains, rivers, and towns.

The work as outlined for Africa is typical of the study of the other continents considered in the sixth grade—South America and Australia. That suggested for Egypt is illustrative of the study of individual countries in a general way, though the amount of detail varies with the relative importance of the country.

If the results of the work in geography even approximate the aims of the course, the children should pass from the sixth grade with a few well-defined ideas that will have a direct bearing upon their future study of the subject, as well as upon their attitude to the phenomena of the world about them. They should understand some of the more elementary geographical principles and should be able to make a few simple applications of these principles. They should have made progress in their power to think independently, and should have taken the initial steps in scientific training through their opportunities to observe, to compare, to generalize, to verify, and to apply their conclusions. They should have learned to read maps more accurately and should have formed some conception of the influence of geographical conditions upon human development. Above all, this study should have given the children some realization of man's dependence upon man and should have fostered a more intelligent and sympathetic regard for life in whatever phase it may exist.

M. F. K.

PHYSICAL NATURE-STUDY

GRADE VI

For years professors of physical sciences have stood by and seen their colleagues in the field of biological science offer tempting courses in nature-study to the children of the primary and grammar grades, but as time went on they set about asking themselves, "Why should not simple problems in physics and chemistry be quite as useful and alluring to boys and girls as nature-study?" The question is often asked them, "What is your excuse for introducing this subject in the grades?" "No excuse is needed," is the reply. "But, with what does it correlate?" "With the every day life and interests of children."

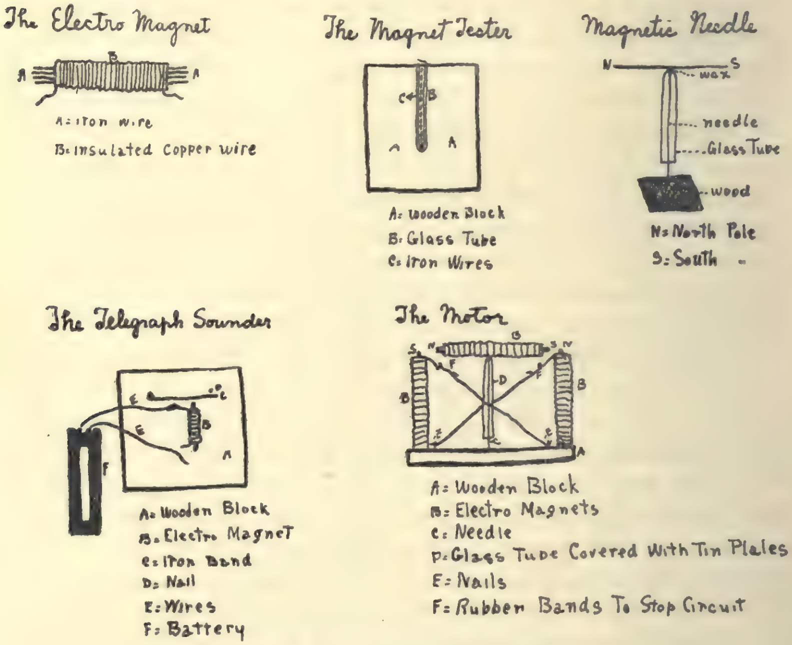
Because physical nature-study may set before a child some problems that interest him can scarcely be called a sufficient reason for launching this subject, rather than some other that happens to be attractive, upon a curriculum already crowded. There must be a better reason for our preference, and this is found in the fact that here we have a great mass of valuable and useful knowledge concerning things constantly surrounding the child. We have been guided in our selection of subject-matter by an aim to make this course helpful to a better understanding of other phases of work in which the child is engaged.

In the Horace Mann Elementary School physical nature-study is taught in the sixth grade, where two half-hour periods a week are devoted to it. During the greater part of the year it is closely related to the geography of the grade and constantly explains many facts related to the every day life of the child. The course is largely a study of the atmosphere, its physical properties and usefulness to mankind.

By the time a child leaves the fifth grade his interest in nature-study has become pretty thoroughly aroused. He is unconsciously on the alert for some new fact about trees, flowers, birds, animals, or insects. This lively interest is now turned into a new channel,—new, yet dealing with such familiar things as changes of temperature, winds, rain, snow, and dew; but a constant inquiry into the causes of these phenomena and the relations between them, and an acquaintance with the physical processes of nature, are new. As no text-book is used, the child's experiences and observations are largely drawn upon. Information is freely given when the pupil cannot readily obtain it in any other way, and whenever it is of especial advantage to arrive at an immediate and simple explanation. He is urged to ask good straightforward questions when his own reasoning powers fail to give a satisfactory solution.

Each new problem is made as definite as possible by means of practical experiments, or where these are impossible, by simple illustrations. These experiments can be satisfactorily carried on in the class-room by the teacher; but when a laboratory is available where each child is provided with the necessary apparatus the lessons become of most value. The experiments are not ends in themselves; they are used only when they point out some principle, or explain some daily experiences in the child's life. For example, when the compressibility of air is taken up, we first deal with it from the standpoint of the child's experiences. On coming to school in the morning this principle, in one way or another, has added to the comfort and safety of the trip. If the bicycle was used compressed air filled the tires; if the journey was made either by electric car or train, compressed air operated the brakes; on entering the school building it again helped through the aid of the door check attached to the heavy entrance door, and if a game of football or basket-ball was played during the day compressed air was invaluable. With examples of this kind, we now find ourselves ready to study the geographical side, and begin our work with a consideration of atmospheric pressure at and above sea-level, and here find helpful the experiences of those pupils who have been in the high mountains. This introduction is followed up during the geography recitation by the wind systems of the world, and it is here that we make application of the principles already brought together. A vital point in the work is to see that the child actually understands the relation between these principles and the wind systems. It is a mistake to assume that the child, once having gained the principles mentioned above, will see without guidance their application to things about him. A few lessons on light and sound are given, and found very helpful.

During the last weeks of the school year, when the work on the atmosphere has been finished, a few simple principles of electricity are taken up. These lessons do not correlate with any other subject taught in the grade, but are given in order to explain in a popular way the principles underlying the electrical devices and toys by which we are surrounded. Electro-magnets, magnets, push-buttons, motors, bells, telegraph sounders, and the telephone are examined and simple explanations given which are vitally interesting to the pupils, as many of them have electrical contrivances more or less useful rigged up at home. The pupils make their own wet batteries with which to perform experiments.



Apparatus made by sixth-grade boys.

Last year some of the boys formed a class which met after school one hour each week to do extra laboratory work. Each boy made for himself an electro-magnet, a magnet tester, a magnetic needle, a telegraph sounder, and an electric motor. These pieces of apparatus were very simple and in general well made, and the boys got a great deal of satisfaction out of them;

even those pieces which were crude and poorly constructed had their good effects, for they taught the makers that careless work was sure to result in a useless machine.

Since no text-book is used it becomes necessary for the sake of reference to keep some sort of record of the lessons; therefore, each pupil provides himself with a good-sized blank book in which he writes compositions explaining the chief points brought out in the class-period, or makes careful drawings of the apparatus used. This writing is done either during a composition period or at home. Besides being an aid to the memory this written work aims to develop in each child the ability to make clear, concise statements, and to keep strictly to the point under discussion.

The course for the year may be outlined as follows:

PHYSICAL NATURE-STUDY OUTLINE

Atmosphere

I. Air is a real substance and occupies space.
    Prove by experiments.

II. The shell of air.
    (1) Position with regard to the earth.
        It envelops and rotates with the earth.
        Earth composed of rock-mass, water, and air more or less intermixed.
    (2) Position with regard to us.
        We live on the surface of the earth, but at the bottom of the sea of air.
    (3) Extent.
        Heights to which atmosphere extends proved by ascension of highest mountain peaks; movement of clouds; highest balloon ascension; action of meteors.
    (4) Properties.
        Tasteless, odorless, colorless, transparent. Can be felt when in motion.
    (5) Uses.
        a. To sustain our lives; to sustain lives of plants and animals; to transport seeds,

pollen, etc.; to support birds in flight; to drive sailing ships and wind-mills; to carry vapor; to raise waves.
- b. To affect land forms; shift sand dunes; cause weathering and erosion of rock surfaces.

III. Air is compressible and elastic.
- (1) Prove by experiment.
- (2) Mechanical uses.
  - Air guns, rifles, bicycle tires, footballs, door checks, siphon bottles, air brakes.
- (3) Lists made of uses of compressed air.
  - (May be assigned for home work.)
- (4) Application of principle.
  - Differences in density of atmosphere at and above sea-level. Explain decrease of pressure in going up a mountain, increase in going down.

IV. Air has weight and exerts pressure.
- (1) Prove by experiments.
- (2) Mechanical uses.
  - a. The pump; simple, force, Springle's.
  - b. Barometer. Make simple mercury barometer. Examine aneroid barometer and barograph.
- (3) Arithmetical problems involving weight of air and atmospheric pressure.
  - (May be assigned for home work.)
- (4) Application of principles—
  - a. To explain the cause of winds.
  - b. To explain the relation between the barometer and weather conditions. Take weather observations.

V. Composition of air.
- (1) Principal gases.
  - a. Oxygen.
    - The element that makes things burn. Experiments.
    - Relation to man and his activities; light, fire, respiration.

- b. Nitrogen.
  - Value in composition of air.
- c. Carbonic acid.
  - Relation to animal and plant life.

(2) Practical application.

Pupils taught that in case of fire, flames can be put out by lowering percentage of oxygen by means of smothering, or by use of chemical fire extinguishers.

HEAT AND ITS RELATION TO ATMOSPHERE

I. Principal sources of heat.
- (1) Sun.
  - a. The source of heat.
  - b. How heat is transmitted to the earth.
  - c. How the atmosphere receives its heat. Compare radiation of rough and smooth surfaces such as grass, pavements, water, radiation in desert regions.
- (2) Combustion.
  - a. Heating of buildings. Explain and examine thermostat.
  - b. Spontaneous combustion—experiments.
- (3) Slow chemical action.
  - a. Experiment—slaking of lime.
  - b. Decomposition of animal and vegetable substance.
  - c. Animal heat.

II. Conduction of heat.
- (1) Metals, best conductors. Experiments.
- (2) Window panes, ice, and snow transparent to heat rays. Experiments.
- (3) Atmosphere almost an absolute non-conductor.

III. Temperature of the air.
- (1) Effect of sun's energy upon air, water, rock-mass.
- (2) Temperature determined by latitude, altitude, land and water areas, winds, ocean currents, clouds, seasons.

- (3) Examine thermometers and thermograph.
  - Study weather maps; compare summer and winter temperature over land and water.

IV. Moisture of the air.

- (1) States of matter—gas, liquid, solid.
- (2) Evaporation.
  - a. Experiments showing how evaporation depends upon temperature and surface exposed. Vapor is gaseous state of water.
  - b. Effect of wind, dry air, damp air, day and night temperatures upon evaporation. Explain what is meant by humidity.
  - c. Chief sources of evaporation. Oceans, lakes, rivers, etc.
- (3) Condensation.
  - a. How produced.
    - Boil water; let vapor come in contact with a hot surface, a cold one, note result.
  - b. Dew—Dew point.
    - Bring tumbler of very cold water into a warm room; note result. Compare amount of dew after clear night, after cloudy one; upon rough surfaces such as grass and cultivated land, upon smooth surfaces such as pavements and roads; upon mountains, in valleys.
  - c. Frost.
    - Bring tin beaker containing ice and salt mixture into warm room; note result.
    - Work of frost on soils and rock.
  - d. Mist—Fog.
    - Formation. Breath on cold day.
    - Cause of mists over lowlands, swamps, rivers, and lakes on summer evenings.
    - Cause of fog on sea, on land. Danger to navigation.
  - e. Clouds.
    - Formation. Cloud observation to deter-

mine effect of winds on direction and velocity.
Common forms of clouds; reasons for color.

f. Rain.
    Formation; shape and size of drops.
    How rainfall is measured; amount that falls in New York.
    Compare amount of rainfall on land with that on sea; compare amount on coastline with interior.
    Effect of mountains on rainfall.

g. Snow.
    Formation; shape and size of flakes.
    Crystallization proved by experiments.
    Snow as protection to vegetation.

h. Hail.
    Formation; shape and size of hailstones.
    Destroys crops.

As a rule when experiments are mentioned the imagination pictures complicated machines and appliances such as are commonly found in laboratories where physics and chemistry are taught. The experiments mentioned in the outline call for only the simplest kinds of apparatus. When studying conduction of heat two pieces of wire of equal size, one of copper, the other of steel, are held in a flame to determine which conducts heat the quicker; a glass rod is also heated and results compared. To prove that air is a real substance and occupies space the pupil packs a handkerchief into the bottom of a dry tumbler, then inverts the glass and plunges it into a basin of water. That the handkerchief remains dry seems to many of the children a very wonderful fact. Wherever it is possible we use for illustration those simple mechanical appliances in daily use; for instance, an ordinary medicine-dropper will serve as well as a more elaborate device to show that air has weight and exerts pressure. From every point of view we aim to make this course of a very practical nature.

S. H. U.

ARITHMETIC

GRADE VI

The pupil comes to the sixth grade with a knowledge of the fundamental operations; the tables of linear measure, capacity measure, time measure, and weight measure; simple common fractions; and addition, subtraction, and multiplication of decimal fractions. His greater power of thought and his growing ability in independent thinking permit him to grasp the further development of these subjects more quickly and easily than he has been able to attack any previous new principle. He now has not only a receptive mind but is fast developing an analytic one. He seeks reasons for things received and inquires whether they are for particular or general conditions. As an example of this he is not satisfied to know that to divide fractions you invert the divisor and multiply, but he must have explained *why* you invert and if it is always necessary. Again, he has learned that a proof of multiplication is to cast out the nines from the multiplicand, multiplier, and product, but he is anxious to know "why" and whether it "will always prove." These and many other questions are asked and must be answered in a way simple enough to be understood and yet technical enough to make the steps apparent. These things and the great interest the subject-matter produces make the sixth grade work in arithmetic one of the most enjoyable subjects in the whole curriculum.

The principal features of this year's work are decimal fractions and percentage, with the application of percentage to discount, profit and loss, commission, and simple interest.

The work of the previous grades is reviewed in many different ways and with as many new applications of old principles as possible. By introducing variety in this way the necessary drill can be given without making the work monotonous. One example of drill which is given in the early part of the year may be interesting to note. Several columns of figures are put on the board before the recitation begins. Already the class has been divided into two sections. Each pupil takes a small piece of paper on which he writes just the sum of the separate columns. As soon as he has finished his work he puts his paper on the desk and his name is checked on the list of names in his section. The teacher judges the paper on the points of accuracy and rapidity, and announces to the class at the next recitation which *section* obtained more points. No individual is mentioned and no one works for himself, but for his section. Review of this kind, involving various principles, is carried through the year. Abstract work of this kind will interest the pupils as long as a sufficient motive is given.

Common Fractions. A knowledge of the simple forms of fractions has been obtained in the lower grades, but the long vacation, together with the tendency of children of this age to remember only superficially, make essential a complete review. The teacher may assume in beginning this review that the pupil's whole knowledge consists in the ability to recognize a fractional expression. Hence we have the class read fractions until they are able to see the value of any ordinary fraction, we have them reduce them to lowest terms and to fractions having a common denominator; they add, subtract, multiply, and divide them.

Before leaving the grade the pupil should be able to use all simple fractions in the four fundamental operations, to reduce any ordinary fraction to its simplest form, and to multiply mixed numbers without reducing them to improper fractions. He should also be able to apply his knowledge of fractions in solving a great variety of concrete problems. The more complex fractions should not be brought into this grade, for whereas the pupil may have occasion to reduce $\frac{\frac{7}{8}}{\frac{3}{4}}$ to its simplest form he is not likely to find practical use for so complicated an expression as $\frac{\frac{2}{3} \text{ of } \frac{6}{7} + \frac{7}{8}}{\frac{3}{5} \text{ of } \frac{5}{8}.}$ And yet expressions like the latter may be found in text-books in common use.

Decimal Fractions. As in common fractions, the pupil has obtained some knowledge of the principles of decimals in the fourth and fifth grades and has made some simple applications of these principles. In the fourth grade he learned to use decimals in his problems with the money idea, as "A cook used eight quarts of vinegar to make pickles. At $0.04 a pint how much did the vinegar cost?" In the fifth grade he learned to use them in a more abstract way, and he learned to add, subtract, and multiply decimal fractions. These must receive a thorough and interesting drill to recall the forgotten details and to secure a basis for percentage.

Division of decimals is the first new principle introduced in the sixth grade. The difficulties of this process are the placing of the decimal point and the understanding of the value of the decimal place. The former can be understood only after long drill, the latter by some concrete lesson. A child can see that .8 and $\frac{8}{10}$ sound the same and have the same value; he knows that .875 or $\frac{875}{1000}$ reduced to its lowest terms equals $\frac{7}{8}$, but it is most difficult for him to see that 7 divided by 8 equals .875. The decimal point is not a factor in the child's reasoning. He will ask "How can one, by dividing, get a number larger than the dividend itself?" and it will take many an explanation and many a demonstration to convince a class that a number of three figures, as .875, is not larger than a number of one figure, as 7. This is shown in many ways, according to the understanding of the class. One very plain way is to divide 10 by 2, then 8 by the same divisor, then 6, 4, and 2 in order. The pupil sees that the smaller the dividend the less the quotient, and if the quotient is 1 in the last case, it must be less than 1 if a smaller dividend is taken. Then he sees that whereas .875 looks like a larger number than 7 it must in fact be less than 1, and he can be made to see that the decimal point makes the difference in the *value*.

The learning of division of decimals is made easy by first taking a whole number for the dividend and a one-place decimal for the divisor, as 964 ÷ .4. As a first step, therefore, the pupil moves the decimal point one place to the right and thereby frees the divisor from decimals. That the relative value of dividend and divisor may not be changed he knows he must multiply the dividend by 10, which he does by adding a naught. It was learned in multiplication of decimals that to move the point one place to the right was the same as multiplying by 10, to move the point two places to the right was the same as multiplying by 100, etc. This idea of clearing the divisor of decimals is continued with a divisor of several decimal places or until all of our ordinary decimals have been used as divisors, when a similar method is pursued with the dividend a decimal, and then with both divisor and dividend as decimals.

Percentage. Percentage cannot be taught without constant applications of the principles and processes involved in common and decimal fractions. These applications constitute the first step in learning what percentage means. The meaning of the word per cent., as so many out of a hundred, or so many hundredths of a whole, is emphasized. Next it is shown that per cent. may be written $\frac{6}{100}$, .06 or 6%. Then the simple work of finding $\frac{6}{100}$, .06 or 6% of a number is drilled until the method of finding the percentage of a number is fully impressed upon the class. The second step is to find a number when a part is given, that is, to find the base when the rate and percentage are given; and then to find what part one number is of another, that is to find the rate, when the base and percentage are given. A good deal of attention is paid to the per cent. equivalents of the business fractions and their simple applications.

Commercial discount is taught, using the single discount and the discount in series. In the latter we seldom use more than two discounts. Types of examples in discount follow: (1) I buy a history marked 60 cents, an arithmetic marked 65 cents, a geography marked 95 cents, and a grammar marked 75 cents. A discount of 10% was allowed on this. What did I have to pay? (2) John buys a baseball glove marked $2.50, a ball marked $1.00, a bat marked $1.25, and a suit marked $4.75. A discount of 20% from the catalogue price was given and a school discount of 10%. What does he have to pay for his outfit?

Profit and loss, commission, and brokerage are mentioned in the year's work, but they are used only in the simplest way and only in the application of the simple principles of percentage. In commission we take only a per cent. on a sale or purchase, and obtain interest for years only, not for months and days.

R. A. K.

MANUAL TRAINING (Girls)

GRADE VI

The work in domestic art begins in the latter part of the fifth year, when the boys and girls are separated in their manual training, and continues through the sixth year. The aim throughout the course is to awaken the girl's thought and to train her judgment and taste as well as her hands; to make the work a necessary part of her life, especially in the home; to show her the easy and natural use of the needle; to cultivate habits of neatness and orderliness; and to give the feeling of independence which comes from knowing how to do things for one's self. Further the aim is to give some idea of the origin and development of the materials used, the relative cost and value of materials and their suitability to the purpose for which they are used; to show some practical application for work in design; and to supplement the other school work wherever it is possible by talks and by illustrations of various kinds. For example, while the children are studying mediæval times, the method of making the ancient tapestries which formed so large a part of the woman's life at that period is discussed. A small modern tapestry loom is studied and the process contrasted with other methods of weaving already familiar. Some study of textiles is made by the children, and discussions are held in the class; occasionally papers are written for which outside time is given from the English work.

It is impossible to present all sides of the subject in the short time given to it, but certain problems are chosen which show the underlying principles. The problem taken up at the end of the fifth year has been the building and furnishing of a miniature house;[1] this gives a common interest to the work of both the

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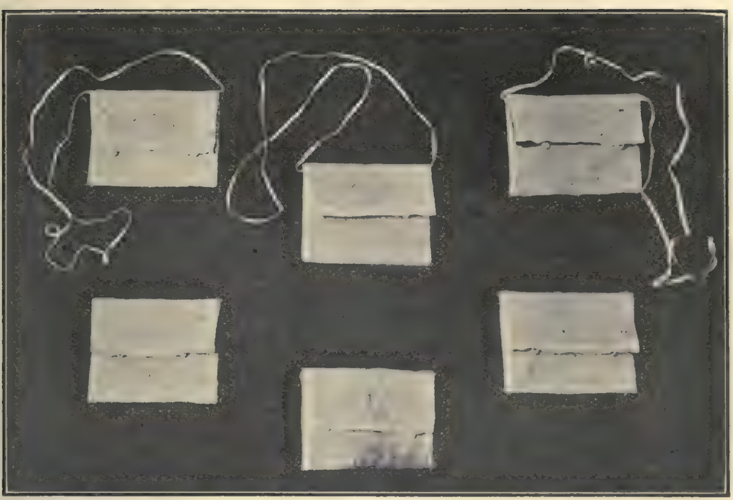
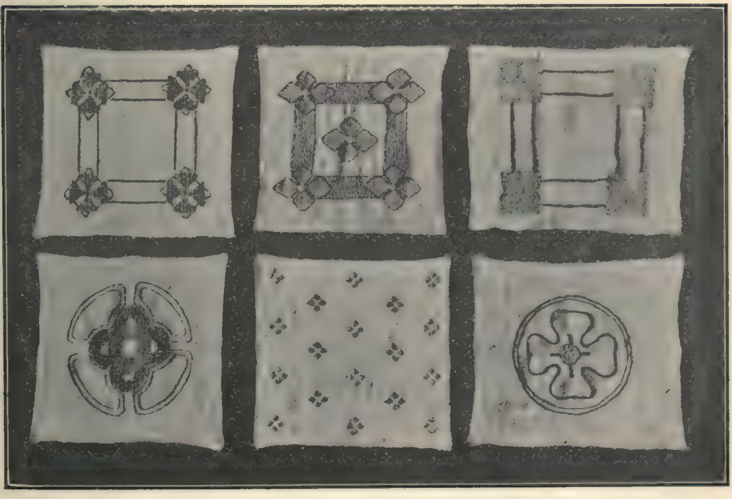
[1] See p. 354.



Traveling Cases. (See page 410).



Covers for sofa cushions. (See page 411).

Work of girls in sixth-grade Manual Training.

boys and the girls, and offers an opportunity to study harmonious effects in color and design in connection with the home. The boys do the woodwork, while the girls make the curtains, draperies, cushions, and table covers. These articles require careful and accurate measurements, and give practice in such stitches as running, stitching, overhanding and the turning and basting of hems.

The work of the sixth grade gives increased facility in the use of the needle and continues a training most necessary in the development of capable and helpful women. The stitches taught are those which are needed in everyday life. The different articles chosen may vary from year to year and these are made as attractive as possible by simplicity of design and good workmanship. At the beginning of this year a small traveling case for money or jewelry was made. The material used was lawn or linen, so that it might be easily laundered and always kept clean and dainty. A design drawn in the art class was traced on the lap of the case and embroidered. A chamois bag was then made to fit inside. Such an article gives practice in the application of many stitches, including hemming, overhanding, outlining and blanket stitch, also the making of loops for buttons,

Various articles made in this year.

and the sewing on of buttons and tapes. Two or three lessons before Christmas are usually devoted to making useful but attractive little gifts, such as pin, spool, or ribbon cases, and opera-glass bags of silk or leather. The various cases give an opportunity for the review of stitches and principles already familiar.

The next work taken up was the designing, embroidering, and making up of the cover for a sofa cushion. The design was worked out in the class and then traced on Russian crash. The grayish color of the linen and its coarse texture make an excellent background for the embroidery, which is done with colored linen thread. Old textiles and Japanese prints are studied to obtain good color schemes. The darning-satin, outline, and couching stitches are best suited to this work. Darning on stockings follows. As soon as the stitch is learned on a practice piece, a stocking is brought from home and darned in the class. Mending a three-cornered or hedge tear in some kind of woolen goods is then taught. These special problems are chosen because girls of this grade are most likely to make use of them.

Toward the end of the year some fancy stitches, as feather-stitching and hemstitching, may be applied to collars and cases of various kinds, or to work-aprons which the children may use for their sewing.

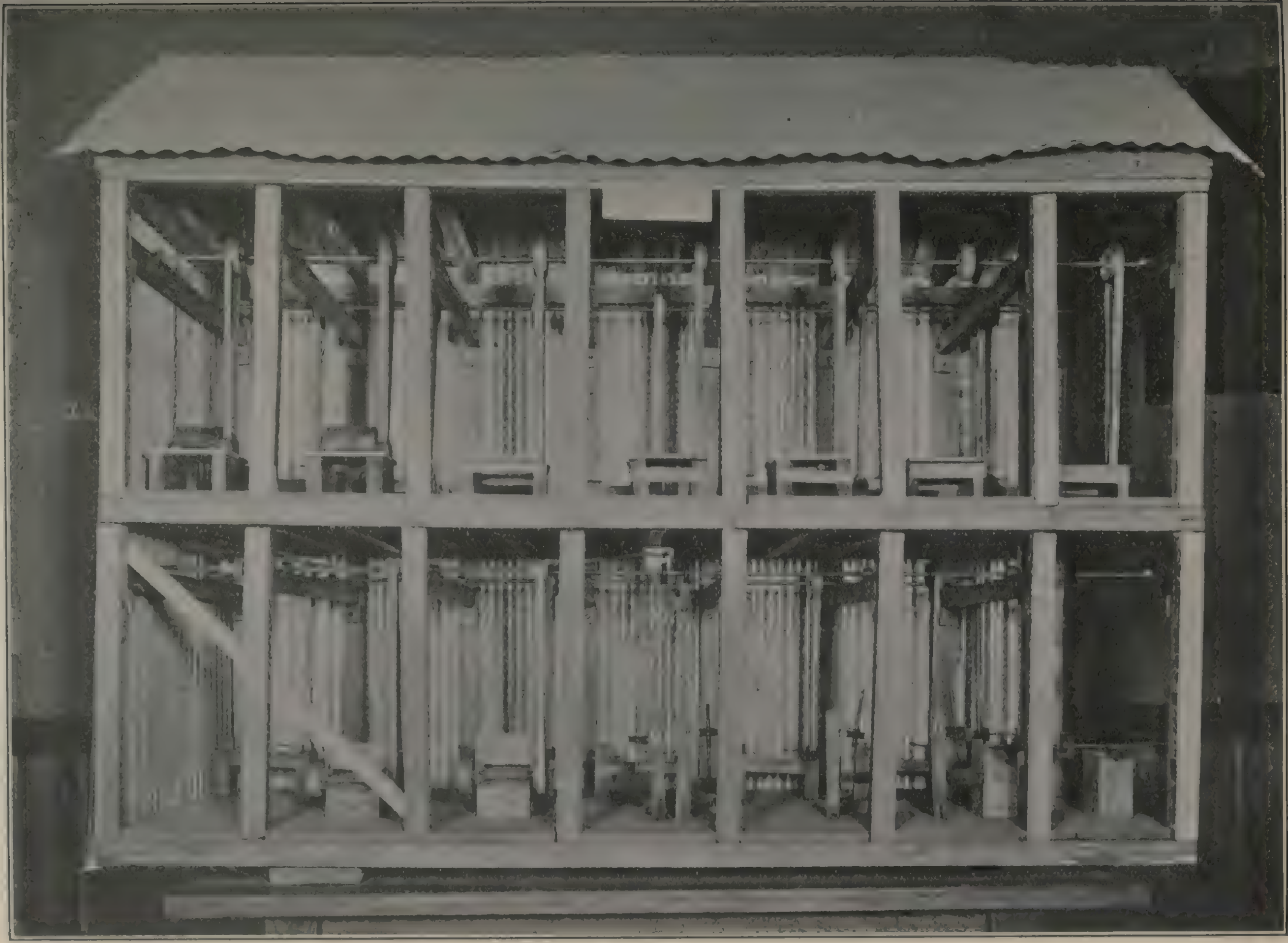
K. S. A.

MANUAL TRAINING (Boys)

GRADE VI

From the handicraft work of the preceding year the sixth grade advances to a study of the factory, or mill, as illustrating the modern method of production. In carrying forward this study, the class constructs a model of some type of factory and installs models of machines, which are belted to lines of shafting and driven with water-wheels. Along with the constructive work, and of fully equal importance, is the study of an actual factory, its system of organization and division of labor, the source of power, and the nature of its processes and products. Visits to shops and mills are an important help in this part of the work.

Just how the study is conducted may perhaps best be illustrated by describing the work of last year. After a discussion of the importance of the factory in modern industry, how its great development was made possible by the introduction of power and by the division of labor, the boys suggested various kinds of factories that they would like to build. The machine-shop was most popular, and it was proposed to combine with it the wood-working mill, second in choice, in order to represent a complete equipment for manufacturing in wood and metal. The erection of a suitable building for this equipment was discussed by the class. The problems were presented as to what kind of construction was required to accommodate heavy machines, and how these machines should be arranged with reference to their operation and the use of power. The boys thought out the different problems quite intelligently, and gave a number of good suggestions as to how the factory should be built. They suggested that the most particular work needed the best light, that the heaviest machines should be near the walls, that machines of the same kind should be grouped together, and that they should be placed in rows in order to receive the power from the lines of shafting. The ideas brought out were reduced to a definite plan which was drawn on the board, and from it a lesson



was given on the names and functions of the principal structural parts of the mill, and the methods of framing them.

The class was then organized into several construction squads for the purpose of erecting the factory building. Long strips of wood were provided, and each squad proceeded to make and assemble its assigned part. When the boys on the sill and plate group had completed their part, they located the places on the sill and plate for the studs, floorbeams, and stringers. As each portion was finished, it was put in, the roof trusses were placed, the floor laid, and the entire class of twenty to twenty-five boys was kept busy up to the time the building was completed.

The next part of the work taken up was the machine equipment. The boys were asked to describe some kind of machine that they had seen in operation. While most of the boys could describe a machine as to its outward appearance, few could tell how it worked, or what was its value as a producer. Their observations as a rule had not penetrated below the surface. Visits to shops were made with the definite aim of securing the important facts about the things seen in these shops. Previous to taking a class on a visit, questions were given to the boys to be written in their pocket note books with spaces between the questions for answers. The boys were asked to note the name of each machine and its purpose, to describe the cutting tool, the kind of power used, and how the work was held in the machine.

When the class went on a visit to a mill, and the use of the various machines was observed, each boy was kept busy filling out his answers and making sketches, and as a result he came away with certain definite ideas, and was too much occupied during the visit to get into trouble. It has been said that it is useless to take classes of young boys on visits to shops, because they have little knowledge of what they see, and do not appreciate the meaning of it all. We find, however, that if the boys have become interested in the work of such shops, and if they know definitely what they are to look for, there is no question that the results realized are worth while. Papers were written describing these visits as part of the home work, and at the next lesson a discussion on the meaning and value of the division of labor was held. The boys described how the work was passed from man to man, each doing a part, and only one part. Reason for having a man do but one small part of the work—just one operation—were asked for, and the suggestion was soon forthcoming that repeated practice enables a man to do one thing better and quicker. This, it was seen, meant less cost in labor, power, and room, and made the workmanship more uniform. On the other hand, it was suggested that to do but one thing all day and to know nothing else, was a disadvantage to a man as it hindered his advancement and gave him little to think about.

Models of machines were made for the mill, each boy making one machine. The wood-working mill was equipped with models of wood planers, circular saws, and lathes, and the machine shop with drill presses, lathes, and planers. As each boy completed his machine, he installed it in the place planned for it, and then helped to build and put in a line of shafting and pulleys, and to run and adjust his belt. Class discussions were held on the subjects of shafts, bearings, hangers, and belts, as these elements were met with in the progress of the work.

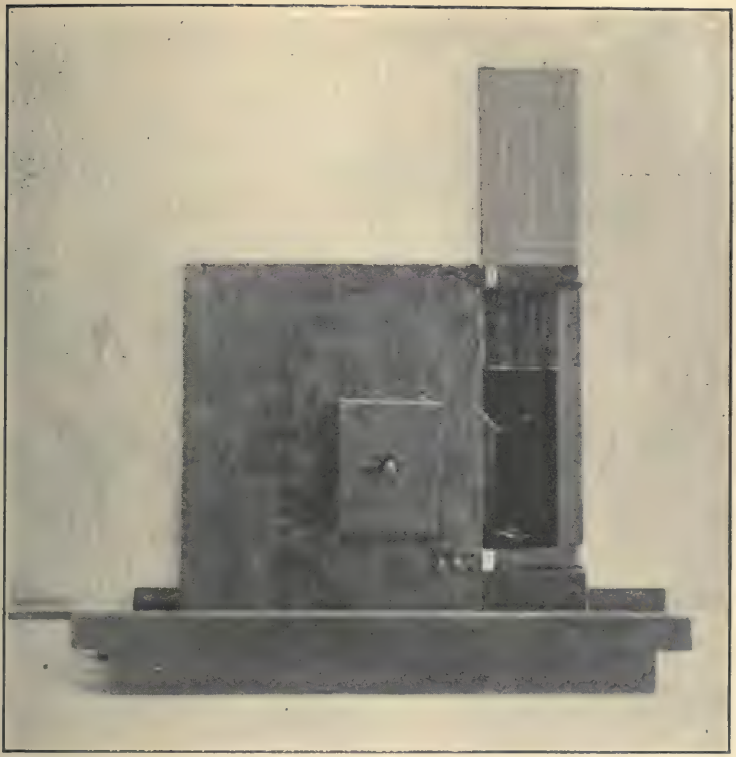
Machines.—Saw table, wood planer, drill press, lathe, metal planer.

The subject of power was then studied. The boys named the various sources of power with which they were familiar, as the steam engine, electric motor, gasolene engine, hot air engine, water wheel, and windmill. The value and general uses of each were discussed, and the boys decided that the water wheel was the one type that they could make. Different kinds of water wheels were considered, making use of the observations of the boys in the country and in traveling. Catalogues and pictures were also shown. The impulse or jet wheel was chosen as the one best suited to be run by the city water supply. A model was shown the class with a demonstration of its operation and the question of the best form of buckets was brought forward. Various shapes of copper buckets were made and tested to find out which was the most efficient. The double-cupped pattern was proven to be the best, and a set of dies was provided at the suggestion of the boys, so that the buckets could be stamped out in copper in modern fashion. Each boy built his own wheel, and made the buckets for it. When the wheels were finished they were tested, and four of the best were picked out and coupled to the driving shafts of the mill. These four were sufficiently powerful to drive the entire plant.

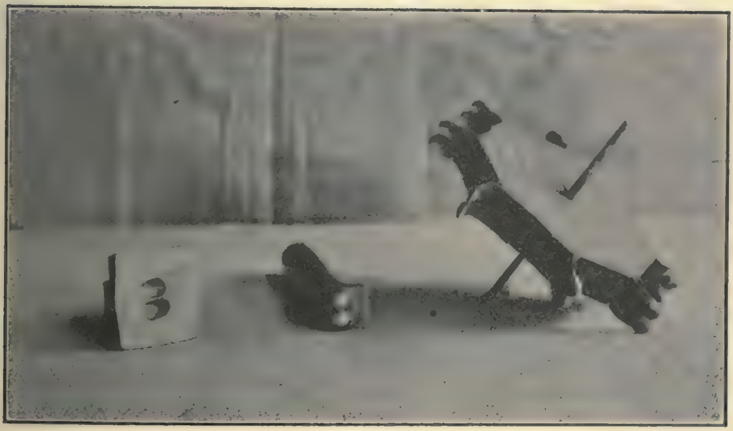
The project as a whole combined co-operative group work with individual work. Each boy, when the project was finished, had a machine and a water wheel to drive it. At the same time he had co-operated with the other boys in his class in building and equipping the model mill, he had met the problems this work presented, had played a part in solving them, and was rewarded by seeing his work form an essential element in the whole result. Owing to the group organization of the work, the boys showed little of the tendency to lean on the teacher that is often the case in individual work. With responsibility placed upon them they found it necessary to act on their own initiative and to do their own thinking.

The subject of the power driven factory, complicated and difficult as it appears at first sight, is in reality admirably suited to the boy of the sixth grade. His awakened interest in things mechanical, things that "go," is here given play and utilized to accumulate ideas. Individual ingenuity and initiative are aroused to the utmost by the constructive problems that the work presents, and the fundamental ideas of the factory organization are grasped with surprising readiness through this intimate constructive experience. The boys obtain a broader experience in handwork in making this project than they would in making a course of useful models in some one material. There are a greater number of simple tool processes, and a larger variety of materials to work with. The subject is intensely interesting to the boys, and the ideas and principles are of value in the writer's judgment, far beyond the possibilities of any course of so-called useful models.

E. G. McN.



Water Wheel. (See page 416.)
Glass raised to show buckets.



A wheel with buckets attached, and the dies with which the buckets were stamped. (See page 416.)

ART

GRADES VI AND VII

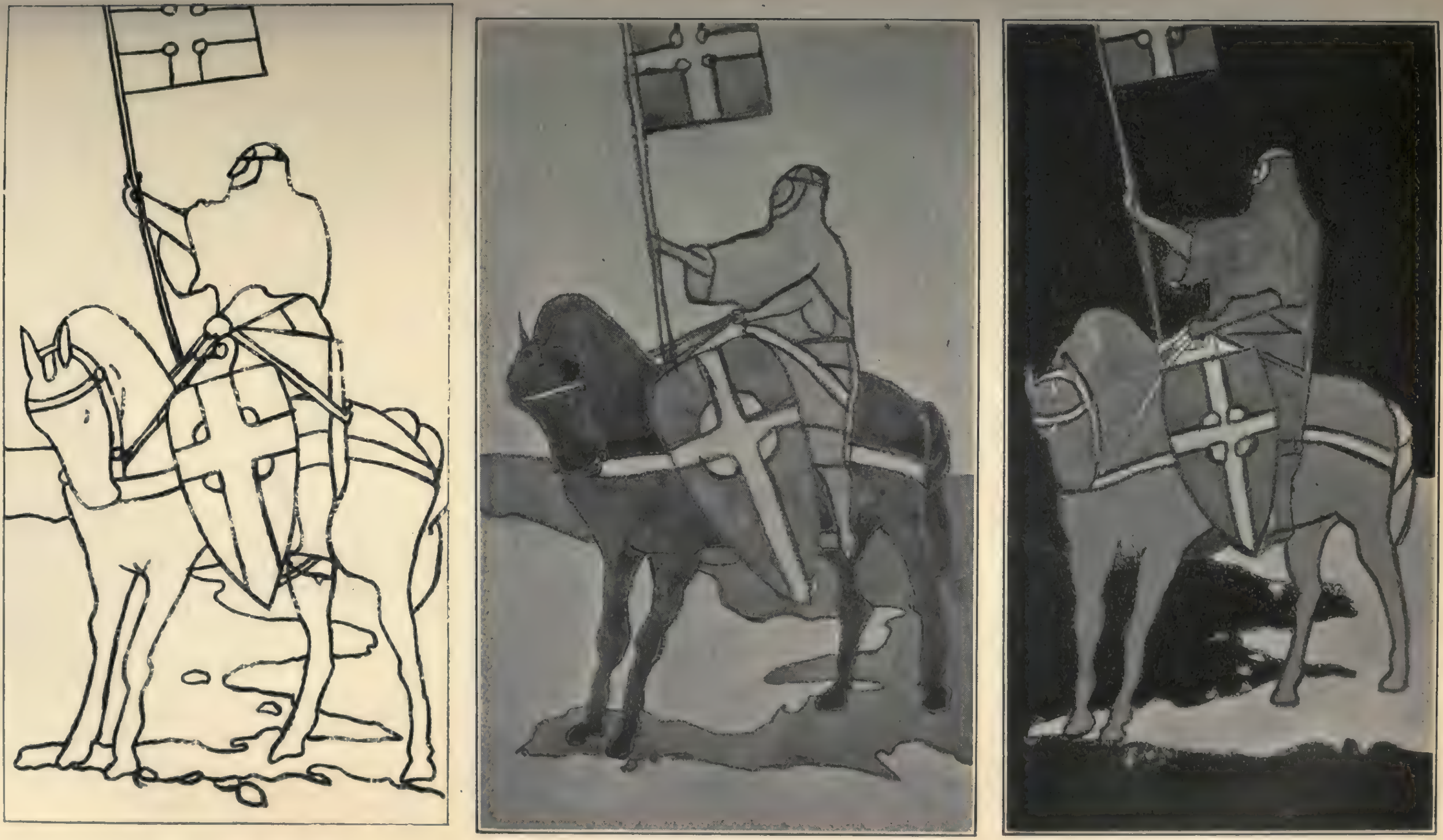
Since the articles published on art work in the lower grades have fully explained the aim of the art course and the method of presentation, it is not deemed necessary here to enter into detail concerning those phases of the work.

The structural elements, spacing, massing, and coloring, form the basis for choice of subjects in all the grades. Experience in the creative use of these elements cultivates good judgment and ability to express ideas in art form. A growing appreciation of harmony in form and color develops power to draw and to design. We find that pupils in the seventh grade show less interest in merely representing and more in designing in line, mass, and color.

The plan in general for the sixth and seventh grades is as follows:

1. The statement of a principle, its illustration in design and expression.
2. Exercises in the use of the principle in creating harmony.
3. Application of these exercises in design, handwork, pictorial work, or in drawing from nature.

For example, the seventh grade this year after two months' work criticised their own productions (designs for the cover to be used on the Christmas number of *School Days*) because they lacked strong dark and light massing. Fine examples of dark and light massing were found in photograhpic reproductions of Venetian pavements. From a number of enlarged drawings each child made his own choice and copied, keeping in mind that his aim was to reproduce the same proportion of dark and light. This was followed by original designs in dark and light. The children in these grades, especially in the seventh, are able to feel the lack of harmony in their work, and wish to know what the masters of art have to say on the question, therefore they are taken to the world's masterpieces to learn. The



Outline Drawing.

Massing in dark and light.

Massing in dark and light.

Design for stained glass window.

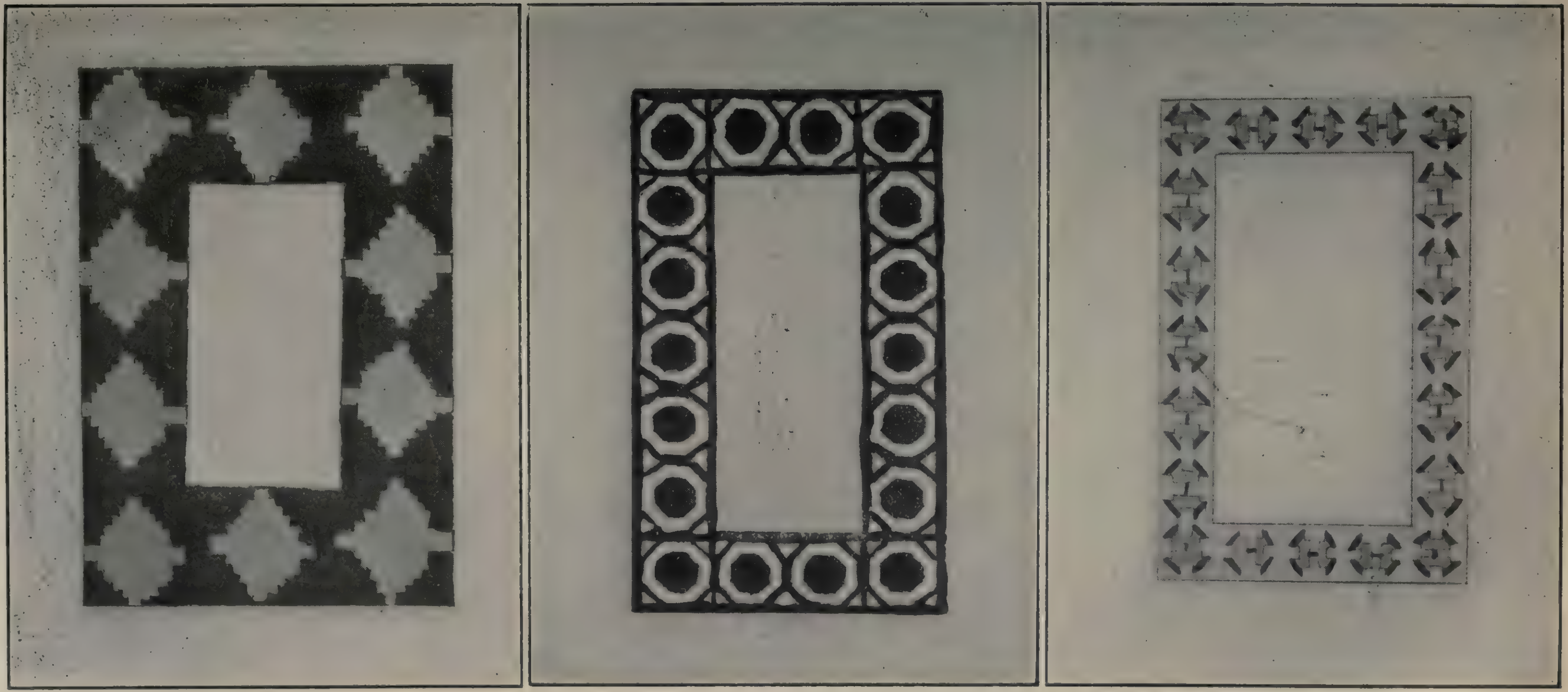
appreciation of a certain art principle as embodied in the creation of a master, forms the standard of criticism for that child and makes clear the aim of all future work using that principle.

Care must be taken in criticising the work of these grades that we do not err by placing undue emphasis on the execution and thus lose sight of the aim of the art course which is appreciation. As Ruskin says—"Always look for invention first, and after that for such execution as will help the invention. Above all, demand no refinement of execution where there is no thought, for that is slaves' work unredeemed. The demand for perfection is always a sign of a misunderstanding of the ends of art."

The following subjects are used as exercises in developing harmonies of line, mass, and color. No attempt is here made to give them in their logical order. The order in which they are given varies according to the ability of the pupils and the other subjects of the curriculum.

GRADE VI

I. Art during the Middle Ages.
    1. Shields.
        (a) Strong ink lines.
        (b) Strong color.
        (c) History of development of forms and designs
        (d) Talk by the teacher.
    2. Old castles.
        (a) Pencil sketching.
        (b) Appreciation of mediæval architecture. Study of illustrations by Jules Guerin.
    3. Books and manuscripts.
        (a) Wood-block printing.
        (b) Illuminating.
        (c) Life of Wm. Morris.
            Venetian printers.
    4. Stained-glass windows.
        (a) Subjects—shields, flowers, castles, and knights.
        (b) Color harmony.
    5. Sculpture—Talk by teacher.
        (a) Giotto's Tower.



Designs for book covers.

        (b) Figures in panels of Amiens Cathedral.
    6. Pavements.
        For study of dark and light designs in a square.

II. Subjects suggested by colonial history.
    1. Dutch wind-mill as motive in a design.
    2. Plates in blue and white.
    3. Pose—Puritan costume.

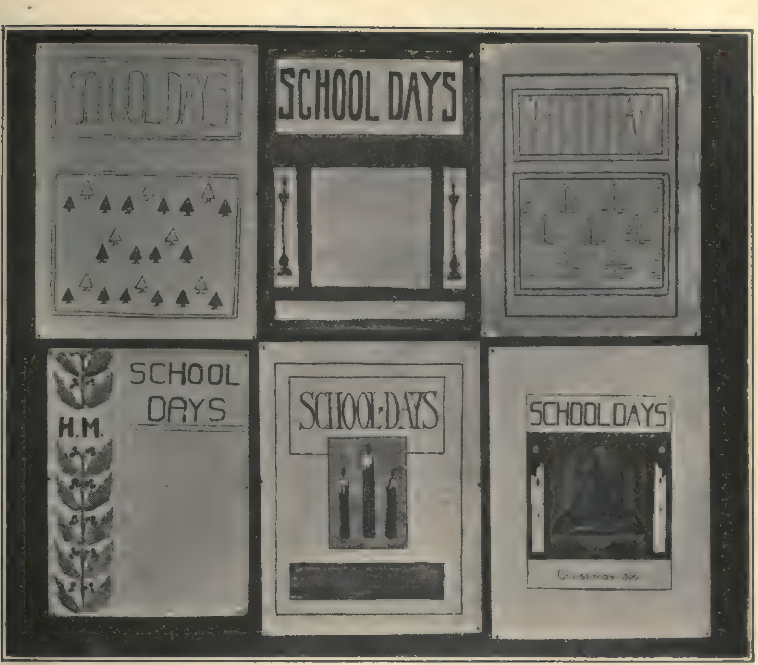
III. Still-life groups.
    Elements influencing choice of objects, and arrangement.
        (a) Variety in shape and size.
        (b) Light and dark.
        (c) Harmony of color.

IV. Book covers. (See page 421.)
    1. Spacing a rectangle.
    2. Design for borders.
    3. Color.

V. Flowers and fruits.
    1. Drawing.
    2. Massing.
    3. Color.

GRADE VII

I. American illustrators of to-day—Howard Pyle, Elizabeth Shippen Green, Jessie Wilcox Smith, Edwin Abbey.
    1. Color schemes made from a study of magazine illustrations. For example, one exercise might be to make a color scheme of one light and two dark colors, or three values of the same hue as they are found grouped in "The Pirate" by Howard Pyle. This color scheme is later applied to an original design in either landscape or pose drawing.
    2. Copying drawings of animals and figures to study characteristic lines, dark and light massing, and harmonious colors. The drawings of animals by Nicholson, Bull, or Parks are suitable for this work.



Designs for Christmas Number of *School Days.*

II. Book covers.

Design for Christmas number of *School Days.*

- (a) Spacing a rectangle.
- (b) Practice in drawing strong ink lines.
- (c) Lettering.
- (d) Dark and light massing of the design.
- (e) Application of a selected color scheme.

III. Still-life group, chosen to illustrate hue, intensity, and dark and light of color. This work is preceded by a critical study of Japanese color prints.

IV. Nature and pose drawing.

As exercises in line, mass, and color.

E. M.

MUSIC

GRADES VI AND VII

The time set apart for music in the sixth and seventh grades is given up at present almost entirely to chorus drill. In both years the aims of the chorus singing are to keep up a lively interest in the work, to gain accuracy and prompt response to signals, and to further develop the love and appreciation of good music. The learning of notation and drills in reading required of the boys and girls in the earlier grades now find their direct application in the singing of good songs and enable us to give point and variety to this later work. Appreciation demands both analytic power and imaginative response. Just as in English studies the upper grade pupils learn something of the principles of grammar and composition in order that they may read with greater pleasure more difficult and varied literature, so the knowledge of musical terms and the perception of musical forms enable us here to understand and to sing songs of many kinds. Some of these contain the words of familiar poems, such as Heinrich Heine's "The Loreley," Longfellow's "Ship of State," and Burns's "O, Wert Thou in the Cauld Blast." Some, like "The Star Spangled Banner," "Men of Harlech," and "Forth to the Battle," are patriotic or heroic; others, like "A Capital Ship," and "All Through the Night" are humorous or pathetic. Many are simple folk songs, such as "Auld Lang Syne" and "The Auld Folks at Home." Each song as it is learned is carefully analyzed as to the thought in order that the singing may be intelligent and sincere.

At the beginning of the year each voice is tested and the pupil assigned to the part better suited to the quality or range of his voice. The habit of singing only one part is, however, likely to deprive the pupil of readiness in carrying any part independently; it may also limit his range and fail to give the necessary ear-training. To offset these difficulties we sometimes change the parts about, letting the sopranos try the second, and the altos the first. For the purpose of developing a clear, well-sustained tone we introduce the chorus period with short vocal drills, such as the *doh*, *me*, *soh*, *doh* arpeggio, and the octave skip, beginning in either exercise on various pitches and using the syllable names and different vowels. The chord work begun in the fifth year is used as a vocal and ear-training drill, and each voice is given practice in singing the low, middle, and high tones in the chords.

By means of steady practice in work of this kind we expect our pupils, at the end of the sixth year, to read and carry the first or second part in songs and canons, to produce a clear, free tone, to enunciate distinctly, and to sing their songs with understanding and imagination. The seventh year chorus, because of longer practice and experience, can sing more difficult songs and read in one, two, and three parts. After continued drill in analyzing the structure of their songs, they are able to notice at a glance repeated and slightly modified phrases. This greater ease in the reading of music, together with spirited imaginative rendering of the words, will result, we hope, not only in good singing but also in genuine love of music.

H. L.

PHYSICAL EDUCATION

IN THE SIXTH AND SEVENTH GRADES OF THE HORACE MANN SCHOOL

The health and physical development of the child are prominent factors in the educational system of the Horace Mann School. Physical education has attained a dignity equal to that of any of the traditional studies of a school, and has its place in the regular curriculum, forming a part of the schedule of each child.

At the beginning of the school year, each pupil is measured and examined, abnormal conditions and tendencies are carefully noted by the school physicians, and reports of such conditions are sent to parents with suggestions regarding further medical attention if such seems advisable. Reports of health conditions are also sent to teachers which enable them to provide for better adjustment of school work to the individual needs of the pupil. Such information is especially important for the instructors in physical education, who are thus better able to guard pupils against injuries from overwork or strains from excessive exercise.

The work for the sixth and seventh grades is planned throughout with a definite regard to the environment in which the children live in our large city, and to the individual needs of the pupils; the children are not made to conform to a system of physical training which has been devised without a real and definite knowledge of their needs.

The gymnasium period is distinctly not a period of uncontrollable play and haphazard work, with the one aim in view of giving to the child complete relaxation from the routine of the classroom, and which, at the end, finds the pupil demoralized and out of sympathy with all restraint. On the contrary, the work is thoroughly planned, there is a definite aim in view for each period, and the same good order and deportment are observed on the gymnasium floor as in the classroom, and the same application and attention to the work are required. While the gymnasium work is arranged so as to allow for relaxation and recreation, yet there is such a balancing and proportioning of formal and recreative exercises that the class returns refreshed physically and mentally, and better able to take up the routine occupations of the classroom.

The aim of the work for each period is three-fold: educative, recreative, and hygienic. While these three aspects of physical education overlap, and are often attained by the same means, yet they are sufficiently distinct so that the work is planned with these different results in mind.

The educational end is kept constantly in the foreground not only in the formal work, but also in the games. That training is invaluable to the child which comes from the prompt, precise, and unquestioned response to all commands, from the performance of each exercise correctly, and in unison and harmony with the action of the class, thus subordinating self to the whole. In addition to this the child gains a peculiar and important training from learning to control his actions, to think quickly and accurately in a sharply contested game, in which the least error on his part may result in the loss of the game and the consequent disapproval of team mates. As has already been indicated, the recreative side of the work is much emphasized; attention is directed to those pupils who have never had the opportunity for play that is demanded for their best development, and they are urged, encouraged, and often required even to take part in the games of the class period. Not alone by games is this demand for recreation supplied, but each pupil is made to feel a responsibility for and a pleasure in the precision, spirit, and finish with which the exercises are done. This pride in the class work, gymnastic contests between the sixth and seventh grades, and the occasional selection of the boy who does an exercise best, all keep up the interest in the work and make it a pleasure rather than an exercise which is to be avoided when possible.

The more tangible organic benefits of the gymnastic lessons are sought in effects which may be considered as hygienic, corrective, and developmental. While the same exercise may and often does accomplish all of these results, yet this is not necessarily true, so in the arrangement of exercises movements are selected with reference to each of these three results.

First of all the work aims to secure, maintain, and establish the health of the children, and at the same time to insure a constant and steady development of the groups of large muscles, and the strengthening of the vital organs, and also to promote skill in motor expression and co-ordination of the various groups of muscles.

Much stress is laid upon the corrective side of the work. While this is largely accomplished by the performance of each movement in the best possible form, other exercises are added which will correct faulty posture, tendency to round shoulders, and aid a symmetrical development.

In addition to the gymnastic work, all the pupils in these grades have the privilege of receiving instruction in swimming under the direction of a skilled teacher. Most of the pupils learn to swim and dive, many becoming expert in some of the simpler strokes.

In the fifth, sixth, and seventh grades the boys and girls are separated for gymnastic instruction, as it is important to provide appropriate and different types of exercise for each sex.

The time of the boy's class period is generally utilized as follows: The first few minutes are given up to facings, marching, and simple class formations; then calisthenics and free exercises are given for about fifteen minutes, after which the class does apparatus work for some seven minutes,—a simple vault on the buck or a high jump or a hanging or climbing exercise. The remainder of the thirty-minute period is taken up with games.

The character of the exercise is entirely changed during the spring months, when the classes are taken to the playground. The work then is largely athletic, and is participated in by all of the boys. The purpose of this work is not to develop athletes as such, but to give the boys the training which can only come from athletic exercise and games.

The regular prescribed work for the fifth and sixth grades consists of two thirty minute periods for gymnastic exercise and one thirty-minute period for swimming each week. During the year contests are occasionally held between the two grades, the one in the spring being in the nature of a track meet. These contests stimulate interest in the class work, and at the same time offer an opportunity to judge the ability and progress of the individual boys.

A brief outline of the work is given below:—

Free exercises.

1. Marching and simple class formations.

2. Various combinations of body, arm, and leg movements arranged to secure a gradual progression by the introduction of more complex movements from day to day, designed to correct faulty postures and strengthen the activity of the vital organs.

Apparatus.

1. Hand apparatus.
   (a) Wooden dumb-bells.
   (b) Medicine balls.
2. Heavy apparatus.
   (a) High jumping from floor, from springboard.
   (b) Horizontal ladders.
      (1) Hanging exercises with arm flexion.
      (2) Hanging exercises with travelling forward and backward.
   (c) Stall bars.
      Hanging exercises with knee flexions and leg extensions.
   (d) Ropes.
      Climbing.
   (e) Buck and horse.
      Simple vaults with and without springboard.

In all apparatus work attention is directed to the form in which each exercise is executed.

Games.

1. Basket Ball
2. Games with Medicine Balls
3. Relay races
4. Obstacle races
5. Follow the leader
6. Indian club races.

In addition to the work as outlined above, each boy is given the option of attending, and is urged to be present at, two after-school classes each week. In these classes, which are largely attended, no formal class exercises are attempted, but the work, which is more recreative in form than the regular class work, is carefully watched and directed. The time is devoted to such games as the boys may select, and to apparatus work in jumping and vaulting, the choice being left very largely to them.

Basket ball is the favorite winter game, while baseball and track work are the most popular for the spring months. A series of basket ball and baseball games are played between the teams representing the different grades. The rivalry between these teams is very keen and a place on any one of them is regarded as a position of honor, and is eagerly sought. A limited number of games between an all elementary team and teams representing other schools are played.

The aim of these games and contests is to accustom the boys to work together. They give to each child complete relaxation from all class routine, and yet demand of each a harmonious subordination of his activity to the activity of the other members of his team, such as he must do if he is to realize the greatest pleasure and good.

In the free exercises as well as in the games the child is urged to merge his own individuality into the individuality of the class, and to work in true co-ordination with the other members to bring about a harmonious whole. This working and playing as a part of a whole rather than as a separate individual is of great value in developing the social side of the child's consciousness.

The same amount of time in the school program is devoted to the physical education of girls and boys, but separate classes are provided for them from the time in the fifth grade when some of the girls enter the period of rapid growth preceding adolescence.

In the sixth and seventh grades, the successful adaptation of exercises to the needs of girls requires more care and discrimination than for boys. Many of the girls in these grades are increasing in height and weight very rapidly, and many individual as well as general problems for adjustment are presented by the variations which present themselves. At no time in school life is regular systematic exercise more important, and its appropriate selection and adaptation more difficult. The heart is often temporarily outgrown by the rest of the body at this time, and careful limitations of exercises of strength, speed, and endurance are necessary for many pupils. While the regular work of the gymnasium is conducted in classes, it is modified as seems necessary to meet the needs of the individual pupils. The forms of exercise for the girls include marching, free gymnastics, exercises with apparatus, dancing, swimming, and games.

Enough marching is given to provide drill in concentrated movement and in the details of correct carriage, and alert, well controlled action. The free gymnastics furnish opportunity for exercises to correct tendencies to faulty posture and to improve voluntary control of definite bodily movements.

The girls are taught lighter forms of apparatus gymnastics suitable to their strength and needs. These increase the variety of exercises and improve the command of actions involving the weight of the body in relation to various objects, bringing gradually a self-control valuable for the meeting of various forms of emergency.

Dancing for girls of this age has a pronounced value. The term is not used here in reference to the dance of the stage nor to the conventional dance of society, but rather to the wealth of interesting material in the folk and national dances, with their historical significance and the wide opportunity afforded through them for training in grace and beauty of movement. No form of activity in the past has been more universal or more valuable than the dance for the artistic expression of the range of human feelings in the life of many peoples, while at the same time providing recreation and wholesome exercise. No form of motor activity has greater possibilities for the youth of to-day, and for girls particularly, than dancing if the varied educational values are recognized and the different forms of the dance are successfully adapted to the pupils according to age, season, and conscious interests.

Swimming is recognized as a very beneficial exercise and training for girls, and generous place is provided for this in the gymnastic programs.

A definite place is also made for games without allowing them to monopolize too much time or strength. It is recognized that certain social and moral qualities desirable for girls or boys can be better cultivated by games than by any other form of exercise. While the same qualities in general are sought in the games for all pupils, it is recognized that considerable differentiation is necessary in games suitable for girls as distinguished from boys, not only in the games selected, but also in the rules governing them.

The end desired in all the physical education instruction is the improvement of the girls' efficiency for present and future usefulness.

HOME STUDY

GRADE VI

The problem of home study—of the extent to which the school should be permitted to encroach upon the child's outside activities, his home life and his play—has not been made easier of solution by the modern transformation in educational methods and ideals. If the problem was a serious one in the period of long school sessions, when the daily program was mainly limited to the "three R's," it presents new and formidable aspects at a time when the curriculum has been expanded and enriched to meet new demands, and when the school day has been shortened by one third or more. However the outside world of parents and friends may regard the matter, it is an article of faith with the teachers that in a school of the character of the Horace Mann, with its broad and varied curriculum, its exacting standards and its spirit of independent work, a certain amount of study at home is an indispensable adjunct to the work of the classroom.

It is only proper to say that this conclusion has not been reached in disregard of the social and domestic conditions by which our pupils are surrounded. It is realized that school life is not the whole of life and that an important, perhaps the most important part, of the education of the child is gained in fields of activity with which the school has nothing to do. We are not blind to the fact that a large proportion of the children have outside lessons in music, in dancing, and in the languages, and that all of them need ample time for play and for performing their part in the home life of the family.

We attempt to keep the balance between the interests of the school and of the home by assigning a modicum of home study when the children reach the age of independent work. In the fourth year they are expected to spend from one half to three quarters of an hour in study at home, in the fifth grade from three quarters of an hour to an hour, in the sixth from an hour to an hour and a half, and in the seventh from an hour and a half to two hours. These periods, added to the school session, make on the average no greater demands upon the child's time than are made by the daily school hours of the ordinary public school, yet by carefully regulating the character of the home assignments and by helping the children to form better habits of study they are sufficient to meet the requirements of the school while they yet allow time for outside duties and pleasures.

The old-time doctrine that home preparation is an essential feature of each recitation of the day is, fortunately, no longer an article of our educational creed. It is now recognized that the highest vocation of the teacher is not hearing child after child recite what he has learned at home. It is acknowledged that many a recitation period is better spent in the development of a subject, in its discussion, or in its study, than in its reproduction. This attitude towards the recitation reacts directly upon the home study period and makes it possible to devote this time to a variety of lines of work rather than to preparation alone. In fact, in our elementary school the study of a topic at home more often follows its presentation in class than precedes it. This method has a double advantage—it throws the burden of thought upon the child, he is not led into the temptation to accept passively the statements of the text-book but, under the stimulus of the teacher's questions, is roused to discover truths for himself, and in the second place it sends him to his task with an intelligent interest in what he is about to do.

Nor does this plan remove all obstacles from the path of learning as some critics of the new education would have us believe. On the contrary, if the class presentation has been a skillful one, the teacher has left her pupils with more difficulties in the way of unanswered questions to face and situations to explain, and more thoughtful applications of principles to make than would confront them in the much lauded operation of "working out for themselves" the obscurities of the text-book. For instance, if in the geography class the physical and industrial conditions of New England have been discussed, the home assignment may be to select from the atlas the large cities of the section and to account for their location. Such work, involving as it does independent application of principles developed in class, exercises the judgment and furnishes the mental stimulus that original work excites. Home study of this character is of far more value in the way of training than the reading, memorizing, or even the assimilation of the ideas of the text-book. Again, a lesson in physical nature-study that develops the truth that air is compressible and elastic, suggests for home-work the making of a list of familiar appliances in every day use that are illustrative of this characteristic of air. An assignment of such a nature not only encourages the child to be observant of the agencies about him, but as he will naturally discuss the question at home, it enlists the interest of his parents which is in itself a valuable thing, and it impresses upon the young student the fact that the principles which he learns at school have more than an academic value, that they are forces in the life of the world about him.

Frequently the home study takes the form of a review or summary of the work done in the class-room. The impetus given to exploration by the blocking of the old trade-routes to India may have furnished material for a series of lessons in history. The resulting home-work may consist of a brief résumé of the controlling features of the situation, either in outline form or in the shape of a composition. Here again the child's judgment is exercised as he selects the few essentials from a multitude of non-essentials. His mistakes in judgment are corrected when the results of the home-work are compared on the following day in the class-room.

Again we find that amplification of a topic under discussion in school is valuable as home-work. Life in the jungles of Africa may have been the subject of a recitation in geography, and to supplement the class-work the accounts of various travelers, such as those of Stanley, Du Chaillu, Knox, and Carpenter, may be assigned to individual children as home-work and reported upon to their classmates. The thought that must be given to the selection of material and to its orderly arrangement and clear expression gives training of no little value.

Sometimes the home study-period is utilized to give the drill necessary to secure rapid and accurate work. In arithmetic the mechanical processes that are essential to the solution of problems should be used by the children as instinctively as a workman uses his tools. Such skill in the manipulation of numbers is acquired only by much practice so, as the hours of the school day are all too short to permit the requisite amount of it, we utilize the home-study period to give additional drill. Concrete problems form legitimate home-work only when the steps involved are sufficiently apparent to be intelligently solved by the children. When a problem is of such a nature that a child attempts to solve it by multiplication and if that fails to give the required answer, promptly turns to division as a possible alternative—in other words, when he resorts to guessing rather than to reasoning—it is a pretty sure indication that the problem might better be handled in the class-room where the teacher's questions may guide the child's thought.

The memorizing of selections of prose and of verse in which the class has become interested is another exercise that may well be delegated to the home-study period, as also may original illustrative work, such as a child's individual impression of a scene described in his literature or history lesson.

Of course the work which prepares directly for a school recitation has its place in any general scheme of home study and while it may lack some desirable elements of training it has sufficient value to claim its share of attention. History especially lends itself to this kind of treatment. Such a topic as the First Crusade might readily be assigned to a class with little introduction. The text-book account of the dramatic event, with a few definite questions to help them test their reading, is all that is necessary to prepare the children for a class discussion of the subject.

Of whatever nature the home study may be, whether it prepares for or supplements the school work, a few general principles control its assignment. In the first place it is made as definite as possible, not only as to the character and scope of the work required, but usually as to the sources of information as well. A direction such as—"Be prepared to-morrow to tell all you can about the voyages of Columbus," is apt to result in unsystematic, desultory work. If, on the contrary, the children are asked to trace the explorer's routes on an outline map and to explain why Columbus himself considered his undertaking a failure while we to-day look upon it as a memorable success, they know exactly what is expected of them and they have a standard by which to test the completeness of their task. Occasionally, in order to train the children to find material for themselves, the teacher omits to specify exactly where they shall go for their information, merely suggesting that encyclopedias, histories, or perhaps some of their story books may furnish them with the material they need.

We also make it a point to have the children leave school with the feeling that they know exactly how to do whatever is assigned them. The child who goes to his work with vague ideas as to how it is to be done is apt to be discouraged and inclined to apply for a kind of help that the home should not be called upon to give. Such study defeats its own ends, robs the child of the satisfaction in his work which is his due, and detracts from the spirit of independence which it is designed to foster.

Another one of our theories is that children get a better kind of training if, during the home study-period, they concentrate on a few subjects rather than dissipate their energies by attempting a greater variety. If a child has a composition to write, or if he is looking through an author's work to select passages to read or retell to his classmates, he will do work more satisfactory to himself and to his teacher if he feels that he has plenty of time to do justice to his theme. In fact the value of home study is not so much a question of the quantity of work to be accomplished as of the kind of work that the new ideals of education call for, and this kind includes investigation and original application of principles—work that demands leisure for reflection, that requires time which the school session can not afford. It is this that we try to encourage, a certain degree of intensiveness, the spirit of study rather than the feeling that there is a multiplicity of tasks to be gotten through with as expeditiously as possible.

As a result we assign for home study one or two, or perhaps in the upper grades three topics, depending upon the nature of the work, and if by this limitation a history lesson, or a geography or spelling lesson is crowded out, the teacher feels that time is not being wasted though she and the children spend the following recitation period in studying the lesson together.

It has become an axiom in the educational world that what the pupils do for themselves not what the teacher does, educates them, and as study is essentially what the pupils do for themselves and what no one else can do for them, it is obvious that ability to study is a controlling factor in education. A knowledge of how to study is no more instinctive than is a knowledge of how to play a musical instrument. In both cases proficiency is a matter of slow growth and of much practice. But just as the student of music is saved time and trouble by a suggestion here and there as to how a difficulty may be avoided or an essential point mastered, so may the child who is learning to study be assisted by a few guiding principles. Study to most children means memorizing first and foremost—the memorizing of words or of ideas. While memorizing is an important element in study, the child should be brought to realize that it is not the only nor the most important element. He should be taught that to study truly he must not memorize indiscriminately but must judge of the relative values of knowledge, must learn to select important data from trifling details, and give to the former a far more careful attention than to the latter. He should learn, too, not simply to accept an author's statement of a truth but seek the cause of the truth and its effect, and so make the act of study an assimilation rather than a mere memorizing. He should learn to concentrate his mind upon his task, to work with a will until it is completed rather than to loiter over it until all interest has died out. And finally he should be trained to test the results of his own study, to ask himself essential questions, and pronounce judgment upon his own answers.

That all this can be brought to perfection in the elementary school is not claimed. As was stated above, the ability to study is a matter of growth, it belongs to maturity rather than to childhood. Nevertheless the child's footsteps may be set in the right path by giving him for study topics in which he is sufficiently interested to take the initiative, definite enough to leave him in no confusion as to what he is to do, important enough to impress him with their value, and few enough to encourage him really to focus his attention.

It is a difficult matter to explain how we teach the art of studying. It is an intangible process, practically every recitation of the day, through the emphasis of essentials, the attention to detail, the insistence on thoroughness, showing the child the importance of these features in acquiring knowledge and so indirectly aiding his study. More direct work is done during the regular study hours which are designed especially for the purpose of training the children to form good habits of work.

There are from two to four of these study hours on the weekly programs of the upper grades. The periods are conducted in various ways. Sometimes the teacher and her class study a lesson together, selecting important material and memorizing it if necessary, and in other cases in outlining a topic. Quite as frequently the children work independently at any task that is awaiting them, the teacher making individual suggestions as to better methods of study and encouraging application and thoroughness.

If the conditions at home are conducive to carrying on the work of study in the spirit which the school seeks to engender, the child should form habits of work which will always stand him in good stead, and should add to these a growing sense of responsibility, and an increasing spirit of independence and self-reliance.

M. F. K.

TIME SCHEDULE

GRADE VI

Number of minutes per week devoted to various activities.

Literature	100
Language	140
Geography	90
History	90
Arithmetic	120
Physical Nature-Study	60
Manual Training	65
Art	70
Music	50
Physical Education	100
Recess	75
Opening Exercises	75

Elementary School Curriculum

SEVENTH YEAR

LITERATURE

Grade VII

The time devoted to reading, language, and nature-study in the lower grades must be divided in the seventh grade among the various branches of English composition, spelling, literature, formal grammar, and French or German. There is, therefore, only a minimum of time left for literature. For this reason we aim to make the reading hour a welcome breathing space in the rather strenuous daily program of our seventh grade boys and girls. Forgetting for a brief period the sterner actualities of school life, the striving after accuracy in mathematics or logical precision in grammar, we become absorbed in ideals of thought and action and in the beauty of form in which they are presented, interested and amused by literature now of a lighter, now of a more meditative vein.

Other studies make pressing demands in the way of outside preparation so that a large part of the year's work in literature is done in the classroom. Sometimes a short poem or prose selection to be committed to memory is assigned for homework after it has been read and discussed in class, more often, however, the work to be done at home is of a more recreative character as suggested by the following questions and directions:

Read ahead to page —— and be able to tell the story. Choose from *The Speaker and Reader* under "Enterprise and Courage" a selection to read to the class. Choose one under "Patriotism" you would like the class to learn. Look over the poems in

Golden Numbers under the heading "In Merry Mood" and decide which is the merriest. Which of the poems on "April" do you prefer? Which of the selections under "Life Lessons" might be helpful for you to know by heart?

We cannot readily measure the results of such hours as these by means of rigid tests and percentages of class standing; on the contrary, the results of our efforts to train the mind and the emotions through the appreciation of ideals and to improve standards of literary taste are more intangible and are to be spelled rather in terms of conduct. Because there is less formal instruction in literature than in any other subject on our program there is less need for conscious tests. Every lesson, however, is a testing of the pupil's ability to appreciate and enjoy. If, after committing to memory Lincoln's "Gettysburg Speech," we turn to Patrick Henry's "Address before the Virginia Delegates," learned some weeks before, and put the question "Which of these two speeches is the finer or better worth remembering?" we are consciously trying to discover what power the pupil has of recognizing great thoughts and noble language; but the pupil, being unaware that he is on trial, so to speak, has a very different attitude from that before a formal test in a more formal subject.

In planning what our boys and girls shall read during the year we not only take into consideration their varied interests and tastes, but we also realize that it is the teacher's privilege to awaken new interests and to direct half formed tastes into channels that may lead to permanent sources of enjoyment. Stories and poems of the heroic type we must have, and as many of them as we can. The noble deed, the act of unselfishness make the heart glow and fill the boy with the desire to be better than he is. Some of the poems of this character, such as "Incident of the French Camp," "The Pipes at Lucknow," "The Dove of Dacca," and "Hohenlinden" are so short and simple in motive and action that one lesson is sufficient for the reading and discussion. But when we come to "Hervé Riel," "The Lady of Shalott," "The High Tide on the Coast of Lincolnshire," and "The Revenge" it is worth while to spend two or three lessons in outlining the story, describing the setting, discussing the characters and their motives, making some application which will bear on our conduct to-day, and in calling attention to the skill of the poet in choosing the measure of his verse, his imagery and the like.

As an illustration of one method of studying a longer poem the following questions are given. The poem is first read aloud by the teacher, and the class questioned to see that all have the main points of the story clearly in mind.

HERVÉ RIEL

1. Tell the story in outline.

2. What historical foundation has the poem?

3. Who was the "victor in full chase?" What line first tells you this?

4. Where is the scene of the poem laid? What were the difficulties that beset the pilots?

5. What fate did the French prefer? *Cf.* with Sir Richard Grenville's order to the gunner of the Revenge.

6. When does the hero appear? How does he enter upon the scene? Who was he, and how came he on the ship?

7. What reasons does he give for the inability of the pilots to get the ships into the harbor? How does he convince the commander of his ability? How had his life prepared him for this task? What risk did he take? How did he succeed?

8. What advance in position had Hervé Riel made in one day? Why did Damfreville find it hard to thank him? Cite passage. What could France have done for him?

9. Did Hervé Riel get less than he deserved? *Cf.* with Grenville and Admiral Dewey. Do you think there are many unknown heroes like Hervé Riel?

10. In what ways can a nation reward its defenders?

11. Why was this poem written? Find some other poem in your book written for a similar purpose.

12. Be prepared to explain the following: Starboard, port, offing, disembogues, Louvre.

Through this study the character of the simple Breton fisherman becomes a vivid reality to our boys and girls, and his courage and modesty are referred to again and again as a sort of standard by which the actions of other men that history or literature reveals to them are measured.

The questions above suggest the main points to which the teacher wishes to direct the thought of the class, but some of them will, of course, be dwelt on at greater length than others. This year, as a result of the interest aroused by a discussion of question 10 in the above list, the children prepared an exhibit to show "How America has honored her Heroes." A committee of a boy and a girl from each section of the seventh grade was appointed to assume the responsibility for getting up the exhibit, but the co-operation of all the pupils in the grade was enlisted. One boy who is skillful in lettering was asked to make the label so that the younger children would know what it was all about; others mounted pictures, maps, and stamps, and inside of a week they had collected a brave showing of books, poems, speeches, pictures, stamps, busts, medals, etc., which were placed in one of the halls easy of access to the whole school.

The changing year brings the nature poems in close touch with our lives. Some of these like Bliss Carman's "A Vagabond Song," and Aldrich's "Maple Leaves," or Charles of Orleans's "Spring," are learned by heart; others, like portions of "Snow-Bound," "To a Mountain Daisy," Lowell's "June," from "The Vision of Sir Launfal," are read as occasion prompts. What we aim to leave uppermost in the child's mind after talking over one of these poems is that the poet sees more deeply and truly into the heart of things than other writers, and that what he thinks or sees or feels must be expressed, if he is a true poet, in a beautiful form. Even if the boy does not care particularly for the poem he can be taught to see wherein the beauty lies and why it has lived so long in the heart of the world.

Some of our memory selections are demanded by our interest in history. "The Concord Hymn," "Warren's Address," and "Old Ironsides," as well as short extracts from the speeches of noted Americans form part of the equipment of every class that leaves the elementary school, and while the learning of such selections may be more or less of a bugbear to many boys and girls, after the task is once done the recitation in concert is a source of pleasure.

Early in the year we read Charles Dudley Warner's "A-hunting of the Deer and other Essays." The children are attracted by the author's genuine love of nature, his playful spirit, kindly satire, and the informality of his style. "How I Killed a

Bear" always amuses a class, and the "Deer" story has influenced more than one budding sportsman to lay aside his gun for a less dangerous weapon. These essays have enough of the story element to hold the interest, so that as a rule there is a loud protest if the book is laid aside before all the stories have been read. As this is not possible to do in school, those most interested read at home and mark certain pages to be read by the class.

One happy result of the reading of these essays by Mr. Warner, as well as those by John Burroughs, which we take up in the spring, is the impetus they give to the composition work. "Camping Out," "Lost in the Woods," "A Taste of Maine Birch," and "The Tragedies of the Nests" are richly suggestive to children who spend their long summer vacations out of the city, and the recalling of their own experiences or their own intimate knowledge of the wild things of forest and field through such reading provokes some of the most spontaneous writing of the year. The following story handed in as one of the weekly compositions, when free choice as to subject was given, is one of the better examples of work of this sort.

"THE BEAUTIES OF THE ADIRONDACKS

"The Adirondack mountains are clothed with a robe of beautiful evergreen trees, which guard and protect the deer, foxes, partridges, and other animals and birds that live under them and tread on the soft moss carpets, for such are everywhere except in dry places where the great pine and hemlock lend their needles to form soft beds. Through these green forests are paths made by man and also many paths made by the owners of the forests themselves, for such are the animals that live there. Most of these trails lead to some particular place, some to a clearing where the trees have been cut down for lumber; at times the clearings are caused by forest fires which are terrible in their effect, for the fire leaps up the dry trees and if it is windy there is hardly any way of keeping it from burning miles of lovely trees. In a clearing of this kind young and tender undergrowth which the deer like to feed on is very plentiful. I often visited these clearings and sat for hours just at sundown to watch the deer come in; they move very silently even when they are running, in fact, sometimes they would sneak in so noiselessly that I would not know they were present till my eye would suddenly fall on them feeding or playing together, sometimes jumping high in the air or running races with each other. They have very keen sight and can hear or scent you wonderfully well, consequently you must sit very still, for if they should have the slightest notion that some one is watching them, the mother or the first one to discover you would, with a bound and a snort, run away at full speed and the last that you would see of it would be its white tail bobbing up and down; people say that this is a signal to the young to follow. Other paths lead to lakes where the deer go to drink; these are very picturesque, especially in the fall when the maples' bright red and yellow light up the soft green of the conifers; there are also white birches which shine out like a lot of silver stars; the water is decked with green lily pads and in the summer when the lilies are in bloom it is a glorious sight, no wonder the deer like these beautiful lakes!

"Sometimes in the evening when you sit around the great flaming log-fire and tell stories of the trout you have caught, for there are quantities in the Adirondack lakes, or of the deer you have seen, you will suddenly hear a hoot or a screech owl that makes a noise like a panther in the distance; then all will be silent for a time and the stories will be more of bears, or the track of a panther which some one thinks he has seen and all of a sudden the hoot hoo hoo hooo-o-o will ring out plainly in the air again and you feel the cold shivers up and down your back till some sensible person says: 'There are no panthers or wild animals to fear in these woods: that is only the hooting of an owl'; which is very true, but it is nice to have an exciting moment like this, for it makes you laugh at your fears all the more afterward."

But our reading is not only a source of inspiration to thought, it gives help as well in the forms of writing. In all that we read we notice even in a slight way the characteristics of the writer's style, his felicitous phrases, and the swing of his sentences. Sometimes the boys and girls are asked to imitate a paragraph of description or narration, using some theme of their own but transferring the rhythm of the author's sentence, or perhaps part of his vocabulary, to their own work. This has been found helpful to children whose power of expressing thought is crude or awkward. Our work in this direction as well as in others has been greatly helped this year by the use of *The School Speaker and Reader* compiled by William DeWitt Hyde. Its selections are so admirable that it has become a well-thumbed book, furnishing as it does selections for memory work, for reading and study, and for illustrative matter for the history lesson.

An interesting and profitable phase of our work is the "free" literature period once or twice a month when a portion of the class read or recite to the others. In this exercise the child is held strictly to account by his audience. He is there to give pleasure, and if he does not know what he has learned, or does not make himself heard, he is severely taken to task. It is here that the teacher has another opportunity to judge of the literary tastes of her class, individually and collectively, by what the individual chooses, and by what the audience approves. Here is a chance to suggest lines of thought which shall turn in a different direction the choice of those who prepare for the next "free" period.

As we review the work suggested here we are conscious that the results of our efforts are not always what our enthusiasm leads us to expect. A teacher must have after all something of the missionary spirit; she can plant and nourish, but the responses to the ideals of conduct or taste she places before her boys and girls cannot always be discerned by her. That these will some time bear fruit in thought or feeling or action is the end and aim toward which her teaching is directed.

C. W. H.

LANGUAGE

GRADE VII

Those readers who have followed the papers on the teaching of English in the previous six grades will no doubt ask themselves when their eyes fall on this heading, "What new points can there be left for the seventh grade to develop?" Indeed, little new in principle remains, the freshness being introduced by means of new material. The more advanced work in grammar, however, makes possible the cultivation of a more analytical attitude in regard to composition work, the children being led more and more to investigate the "why" as well as to see the "how."

In composition our aim this year, as in previous ones, is to train the pupils to express themselves freely, clearly, correctly, and as attractively as possible. With the first point we need concern ourselves but little. The children who have come up through the grades of our school usually get from the atmosphere of the school great freedom of expression, and comparatively few of those who enter the school in the upper grades long remain tongue-bound. It is in the attainment of the second and third points—clearness and correctness—that the teacher of composition wrestles with seventh grade pupils throughout the year. We find that in most cases when a child has been freed from self-consciousness, his inaccurate, vague expression comes from vague ideas, and the first step in clearing up expression is to help him clear up his ideas, to form a complete, distinct picture in his mind of what he wishes to express. Two ways are employed to accomplish this,—by leading the pupil to see by questions the facts necessary to express the truth, and by setting before him as a model some masterpiece picturing vividly the same idea he is trying to express. The truer picture of the master suggests what the student has failed to note and sends him back to readjust his own concept.

In pursuance of the foregoing aim it is economy of both time and mental energy in written composition to choose a subject that has already been cleared up and in which an interest has already been aroused, such as some topic from history, geography, literature, or manual training. The children express their ideas through the three forms of narration, description, and letter-writing, the first two being used in both oral and written work. There is a natural demand for narrative and descriptive power in history, geography, and literature. Constant opportunity for the practice of oral reproduction in these fields offers itself in the topical recitation in these studies.

In reproduction, to help the pupil to get and hold the thought of an author, he is taught to make outlines, not intricate ones but those composed of a few large headings that he can easily carry in his mind and from which he can recite. For instance, in history he may be asked to get the substance of a paragraph entitled "Population of United States in 1790." Under this he may make three points—Number of inhabitants, Distribution, Large Cities. On these pegs he may hang all the facts of the paragraph. More minute analysis would confuse a child of twelve. While carrying on this analytic process, the class are also learning to build up their ideas logically in their compositions of all kinds, thus developing habits of orderly thought.

Other sources from which we gather material for reproduction are the lectures occasionally given in the school auditorium and those heard outside that have some connection with school work. For example, while the geography class were studying North America, Lieutenant Peary gave a lecture on his trip to the North, which one of the members of the class attended. The next day he reported to his fellows the substance of it. This sort of exercise we find valuable for clearness, as the inspiration of knowing that he is the one source of information for his hearers urges the reporter to do his best, and moreover, the listeners demand that the reporter make himself clear to them.

The subjects for narrative and descriptive exercises cover a large field, comprising personal experiences and imaginary incidents. The following are illustrations of the latter. After studying about the emigration to the West in the early part of the nineteenth century—the roads, inns, methods of transportation, and general condition of the country, the class was asked to write the diary of a boy or girl who made the trip from some seaboard town to the Mississippi Valley. After reading Warner's *How I Killed a Bear* the pupils were asked to write of some imaginary encounter with an animal, working it up to a climax in the same manner as the model. In these imaginary writings the tendency of children is to be fantastic, and the test of probability has to be constantly applied to keep their writing sane.

In letter writing different sorts are brought in, friendly letters, business letters, and formal letters to government officials. As examples of these, last year the class wrote letters to an absent schoolmate; and later when they were studying the Revolutionary Period, they wrote letters to William Pitt, remonstrating against the oppression of the English Navigation Acts. In each case letters of the kind they were expected to write were read to the class and a discussion followed bringing out the points which made them good. After this they were encouraged to try letters of the same style as the model.

The school paper mentioned in the preceding articles on English furnishes in this grade also a great stimulus for written work, the children knowing that their productions may be published if worth while. We have found, too, that if the pupils realize that their essays are to be read in class they will make greater efforts to produce something interesting and well written.

But it is not only with the substance of the composition that we concern ourselves. We also lay great emphasis on the form in which it is presented. Only a few points are chosen, but these are drilled on incessantly until the teacher believes they become second nature to her pupils. The points emphasized are, general arrangement on paper, capitalization of title, quotation marks, possessives, and the simpler uses of capitals and punctuation. Most of these matters have already been taught in earlier grades, but repetition of them to the end of the elementary school course is necessary to fix them as habits in writing. Paragraphing, too, is taught in a large way, but not much stress is laid on it at this stage.

The correction of these compositions is carried on in the usual way, criticism of both oral and written work being made by both teacher and pupils directly after the recitation. In written work the papers are taken by the teacher for more careful correction. The mistakes are indicated at the end of the essay as "three misspelled words," "two capitals omitted," etc., and the children are required to find these mistakes and correct them. One successful method used is that of collecting the compositions, putting them aside for a week or two until they have passed from the children's minds, and then handing them back uncorrected for the authors to read and correct. It is surprising to see the criticisms they make on their own work after coming back freshly to it.

This subject more than any other taxes the ingenuity of the teacher in inventing new ways for presenting old points that must be drilled on in season and out. As for any royal road or shortcut leading to all the desirable ends, we have yet to discover it. We are still looking for our Columbus to find the route that shall enable us to announce to the much-tried teacher of our language "English taught in one year."

Grammar. The grammar of this grade is closely allied to the composition so that the principles taught may find direct application so far as possible. The work of this year comprises the analysis of simple, compound, and complex sentences, and the recognition of the parts of speech in their more difficult forms, as abstract nouns, verbs of state and being, adverbs modifying adjectives and adverbs, etc. The knowledge of what constitutes a sentence is especially emphasized, as one of the most common faults in children's composition is the incomplete sentence. This comes about often through the insertion of a modifying clause in the main clause, the main one being left unfinished. This mistake is rectified most easily by teaching the pupils to consider modifying clauses as simply elongated adjectives or adverbs. The pupil will then readily see that the main clause with a modifier only is not complete.

Another illustration of the application of grammar to composition is its use in clearing up the difference between plurals and possessives. If the idea of adjectives is thoroughly understood it is easy to make the child see the difference, the plurals keeping the noun idea, the possessives assuming the modifying function. Again, after studying clauses and phrases, the children can be taught by throwing an idea of lesser importance into a subordinate phrase or clause, to vary their sentences from the monotonous compound joined by "and," "but," and "for" which is such a favorite of the average pupil.

A text-book, Buehler's *A Modern English Grammar* is assigned to this grade, but is used only for the exercises, definitions being worked out with the class. For extra exercises, and to make the children feel that grammar is not confined to the grammar text-book, but applies to all English, books of history and literature are used for purposes of drill. In some cases books have been made by the children themselves, which at the end of the year represent the ground covered. For instance, when the noun has been studied and some drill given, the children write in their books the definition that has been worked out in class and make sentences containing illustrations.

Spelling. An important part of English and one of the most difficult to teach is spelling. In the highest grade of the elementary school we are confronted with the task of turning out at the end of the year children who are good spellers. They may come to us with differing abilities, with different training, but when they enter the high school they are all expected to write correctly their vocabulary of several thousand words. A child may be poor in mathematics and still pass through life happily; he may trip on his facts of history and still keep the respect of his comrades; but woe to him who dares to tamper with the rules set down by Noah Webster.

With these facts confronting the teacher she sets about her task, resolved that when a class leaves her they shall go forth to trip airily through the intricacies of English spelling. The first step in accomplishing this is to awaken in the pupil a desire to conform in this particular matter to the usages of society; the next is to train the child to acquire accurate and deep mental pictures of words.

At the beginning of the year the teacher separates carefully the good spellers from the poor ones, then examines the poor spellers as to their manner of attacking spelling and classifies them, in her mind, as eye-minded and ear-minded. With the visualizers—the natural spellers—she need not much concern herself, as in their case spelling will pretty much take care of itself when careless habits have been broken up and good ones substituted. In their case the teacher employs methods to develop accurate perception. Any training that tends to care and thoughtfulness will clear up their defects. One method used successfully has been to excuse from the spelling class any child who hands in papers in history, geography, composition, etc., correctly spelled, the absence from the class work continuing as long as the spelling of written work remains correct. It is surprising how the spelling of these naturally good spellers clears up under this stimulus.

The visualizers remaining in class are given constant exercises for acquiring accuracy. One means of doing this is for the teacher to write on the board the ten or twenty words of the lesson, the children selecting the difficulties of each. Then the teacher erases the words and dictates them. Another method employed is to assign a paragraph in history or literature, let the class look it through once, and then write it from dictation. Sometimes a column of twenty words from the spelling book is chosen, and the class is allowed two minutes in which to find all words with silent letters, words with double consonants, words of two syllables—anything that concentrates the attention on the form—and then are required to write the words from dictation. All misspelled words are correctly written in a side column of the blank book kept for that purpose, so that at the end of the week each child has a complete list of his troublesome words and does not waste time studying words already known.

It is with the ear-minded children that the teacher must do her most careful work. To a certain extent they too must visualize, but the amount of visualizing should be reduced to the minimum, if the children are to be trained to accomplish the greatest results with the least expenditure of energy, an economy aimed at in all modern teaching. The logical child is apt to be the ear-minded one. He spells as the word sounds and to a great extent always will, so we must help him along that line. Holding this sort of child to the whole word is almost labor lost, so we first emphasize division of words into syllables. The lesson for the day is placed on the board, and divided into syllables, then the attention is concentrated on the syllables with silent letters or troublesome diphthongs. After this the words are erased and the lesson conducted as those described above.

Beside the spelling book mentioned the material for spelling is gathered from various sources. The vocabulary of each subject studied is taken up—the proper names in history and geography supplying legitimate material for spelling gymnastics. Every set of corrected papers furnishes matter for a spelling lesson, and then there are those mistakes that live from generation to generation, that an experienced teacher comes to respect almost as classics, such as distinguishing between plurals, possessives and contractions, forming plurals, the "ie" and "ei" combination, homonyms, abbreviations, etc.

The use of the dictionary is always encouraged. Every child owns a small pocket edition which he is at liberty to consult when writing any composition. This is allowed as we consider that an important point has been gained when a pupil knows that he does *not* know; and he remembers the word better because of the trouble of looking it up.

Whether the reader believes in the methods outlined above or not, he will surely agree that the only way to make good spellers is to be zealous in season and out of season, but that zeal without wisdom makes our labor nought.

G. F. B.

HISTORY

GRADE VII

As will be seen from the paper on sixth-grade history, the work of that year comprises a study of the Middle Ages, emphasizing especially the spirit of awakening as shown in the discovery of America and in its exploration. Thus, instead of being suddenly plunged into the history of the United States, the pupils are led up to it logically and so get a perspective of their country in relation to the world. In this way they are prevented from forming the idea that the beginning of all things was in America and that all preceding us belongs to the prehistoric age; they are made to realize that our civilization is but a continuation of that of Europe, and that we used the best that had gone before us as the foundation on which to build our nation.

The sixth grade also makes a study of the period of colonization in North America. Here the seventh year takes up the history, beginning with the struggle between France and England for supremacy in America, and following with the development of the English colonies through their Revolution, their formation into the United States, and on to the present day.

From this vast field it is somewhat difficult to select the *few* topics that children of this age can cover. Many years of experience have taught the makers of the curriculum the foolishness of attempting to cover too much ground; that it is better to select a few topics, give a comprehensive view of each, be certain that the pupils' ideas are definite, and trust to the later courses of the high school and college and to individual reading to fill in the rest.

From the period of history allotted to this year, we have chosen the following topics, which are, we find, all that our children can well understand and elaborate in the time assigned—four half-hour recitations weekly.

Outline of Topics.

I. Overthrow of French in America.
  (a) French possessions.
    1. What brought French to New World.
      Desire for furs.
      Missionary zeal.
      Desire for land.
    2. Explorers—La Salle as a type (Parkman).
    3. Study of water and land routes to the interior.
    4. Settlements, with reason for location.
    5. Description of French life (Parkman).
  (b) English possessions.
    1. Reason for immigration to Mississippi.
    2. Natural routes to Mississippi Valley.
  (c) Conflict between French and English in America.
    1. Forts guarding routes between French and English possessions.
    2. Story of Braddock's expedition.
    3. Montcalm and Wolfe.
  (d) Terms of the treaty that affected America.
  (e) Lessons learned by colonists from the war.
    1. Consciousness of their own strength.
    2. Knowledge of each other.
II. Struggle for political freedom.
  (a) Industrial and social conditions about 1750.
    1. Agriculture { North. South. Middle States.
    2. Fishing.
    3. Commerce { Main lines and exchange of products.
    4. Manufacturing—rum and ships.
    5. Home life, education.
  (b) Effect of taxation on these industries.
  (c) Events leading to outbreak of war.
    1. Navigation Acts.
    2. Smuggling.
    3. Writs of Assistance.
    4. Stamp Act.

      5. Quartering Act.
      6. Tea tax and Boston tea party.
      7. Boston Port Bill.
   (d) Preparations for war.
      1. Drilling of troops.
      2. Gathering of supplies.
   (e) Campaigns—objects and results.
      1. Around Boston.
      2. At the center.
      3. In the South.
      4. In the Mississippi Valley.
   (f) Treaty.
      1. Acquisition of land.
      2. Fishing rights.

III. The forming of a government.
   (a) Articles of confederation.
      Weakness shown in financial troubles; international troubles; interstate troubles.
   (b) Constitution.
      1. Three departments—use of each.
      2. Establishment of a revenue.

IV. Struggle for commercial freedom.
   (a) Interference with commerce by France, England, and Barbary States.
   (b) Struggle with England.
      1. Battle of Lake Erie.
      2. " between *Guerrière* and *Constitution*.
      3. " of New Orleans.

V. Expansion and development.
   (a) Acquisition of territory.
      1. Louisiana.
      2. Oregon.
      3. Texas.
      4. California.
   (b) Industrial development in East.
      1. Manufactures.
      2. Iron and coal mining.
   (c) Transportation and communication.
      Roads, canals, steamboats, locomotives, post offices, express, telegraphs, cables.

- (d) Development in West.
  - 1. Mining—California.
  - 2. Farming—Kansas.
  - 3. Herding—Colorado.
- (e) Resulting growth of great cities.
  Chicago as a type.
- (f) Reaction on East.

VI. Slavery and the South.

- (a) Development of South.
  - 1. Cotton gin calls for more cotton, more slaves.
  - 2. Growing sentiment in North against slavery.
- (b) Struggle to maintain balance in Congress.
  Missouri Compromise.
- (c) Struggle for territory.
  - 1. Texas.
  - 2. California.
  - 3. Kansas-Nebraska Bill.
  - 4. Dred Scott case.
- (d) Secession and formation of Confederacy.
- (e) Civil War.
  Object of campaigns and results—one followed in detail.
- (f) Reconstruction—only general features.

VII. Period since the War.

In the study of these subjects, while several lesser aims are held in the mind of the teacher, the main thing she wishes the pupil to have gained at the end of the year is an understanding and appreciation of and a sympathy with the institutions of his environment. With the facts of the life around him he has had a passing acquaintance for years; now he is led to inquire why these things are and how they came to be. It would be difficult for him to analyze these institutions at the present stage of their development; they are too complicated for him to understand as they now are, so he is taken back to the simpler forms which they had in the beginning. There he makes his start, following their evolution to the more complex forms of the present day, dwelling on the periods in which the institutions made their greatest growth. For instance, for the study of government we select the years directly following the Revolution, since at that time governmental machinery was comparatively simple and it was then that the United States was most actively engaged in its development—creating and organizing departments, deciding domestic policies, and establishing foreign relations, thus making its most marked growth.

In thus following the evolution of an institution, another aim is achieved—the training of the judgment. The class study a certain period and certain conditions until they see the problem as nearly as possible as it presented itself to the people of that day and then are asked, "What would you do?" For instance, an accurate idea of the sufferings of our continental army that winter in Valley Forge, and the knowledge that there was plenty of food and clothing in the country but no way of getting money to buy it, force the child to the conclusion reached by the statesmen of that day when the Constitutional Convention was called, that fuller legislative powers must be given to the federal government. It is surprising how often the decision of the class is in accordance with that made at the time. We lay considerable stress on this sort of training as it is the kind of reasoning most often called into play in everyday life where problems are constantly presenting themselves.

Incidentally two other aims are kept in sight which the class must realize to make the work successful; first, the children should be aroused to such an interest in the subject that they will read of their own inclination, both history and biography. In close connection with this—as a result—comes the second aim, the acquisition of facts. The latter is an important one when considered as a foundation for the training of sound judgment, or the understanding of environment.

It is impossible to find all the historical material needed in one book, but the class are given Fiske's *United States History* as a text. This is supplemented by the library at school and at home, by magazines, and by information gained from parents and friends. Each schoolroom is furnished with a small library made up of books needed for daily reference. Some of these are owned by the school and some loaned for the year by members of the class. They comprise text-books, *real* histories such as Parkman's works, collections of stories such as *Historical Tales* by Charles Morris, and such compilations of source material as are within the grasp of the children, as Hart's *Source Book of*

American History and *How our Grandfathers Lived* or Mary Sheldon Barnes' books and *Old South Leaflets*.

Besides books, the pupils are constantly given questions the answers to which they find in the life about them, either in their own experience or in that of adult friends. For example, while studying immigration in connection with expansion, the pupils may be required to bring in a list of the different nationalities they have seen represented in New York, or in discussing the question of United States revenue, they may be asked to give sources of revenue that have come under their notice, or to which they often contribute. The child's experience is a source especially drawn upon in the study of government and industrial matters. This is valuable as it calls attention to the life about him and puts him in an inquiring attitude towards his environment. It also enlists the co-operation of the home, which is a valuable asset in teaching any subject.

The methods of conducting the class work vary. When facts are to be learned or a story told, topical recitations are carried on, the pupil reciting from an outline previously prepared by himself as explained in the article on seventh grade "Language." After this, points are cleared up and interpretation of facts discussed. At other times questions are given for home preparation and the answers discussed in class.

This year, to fix in the mind of the pupil the facts he should know, five-minute drills have been given at the beginning of the lesson. These correspond to the quick drills given in the arithmetic class, being designed not so much to bring out principles and large matters as to fix facts accurately in the memory. Something like this may be required: "Give the terms of the Missouri Compromise," or "Name the states divided by the Mason and Dixon Line in 1821."

As to the connection of history with other subjects, that of history with geography is so close that is it difficult to separate them at times. This is especially true when the subject is expansion, or when some phase of industrial development is under consideration. The pupil must have a clear idea of the physical conditions of the country, its relief, climate, waterways, and resources, to understand the migrations and the industries that have grown up in different sections of the United States. Unless he has a knowledge of the rugged surface of New England with its many waterfalls that may be utilized for power, he cannot explain the development of that region as a manufacturing section. If he would understand the direction of migrations westward, he must know the mountain passes and rivers of the country. Often a direction of this sort is given, "Take your atlas and find the reason why Ohio, Indiana, and Illinois were settled before the other states of the Middle West." In return for the assistance that geography thus renders in the teaching of history, the latter helps to fix geographical locations and the names of political divisions, rivers, mountains, and lakes.

Besides this aid given to geography, history furnishes a large amount of material for composition both oral and written, and is also in close relation to spelling, as has been shown in another place.

As an outline of the year's work to be used in quick reviews, a note-book is kept by each pupil in which are placed outlines of work done, the maps drawn, names of places occurring in history, names of famous men, and the principal dates to be remembered.

Realizing how strong an impression an appeal to the eye makes, we have made a collection of pictures illustrating the famous men, scenes, and places to be used in connection with history. These are gathered by the children from many sources—the magazine being a common one—and are mounted and catalogued according to periods. Also excursions are frequently made to places of historical interest, and the museums are utilized whenever material is found there to supplement the subject under consideration.

G. F. B.

GEOGRAPHY

Grade VII

Geography and history form two of the most humanizing studies in our elementary curriculum. "They are the stage and book of God's household—history the book, and geography the stage"—and as the man in the book moves only upon the stage, and the stage controls and prompts the energies of man, it would seem as if whoever studied one without the other would understand neither. The dominant thought then, in our teaching of geography is that the earth is the home of man, and though for purposes of instruction we fix our attention for periods of time upon purely earth forms and phenomena, yet a real geographic interest is developed and sustained only when these phenomena furnish us with an explanation of the varied activities of the different regions of the globe and of the characteristics of the people who inhabit them.

Our course in geography in the elementary school therefore, falls naturally into two main lines of instruction; first, the teaching of certain essential geographic facts and relations which should be the property of every child who leaves the grammar school; second, the teaching of simple geographic principles, causes, and consequences which explain and elucidate these facts and others which the child in his ever-increasing maturity will continue to acquire. While these two lines of thought run parallel throughout our work in the grades, it is evident that the emphasis on the second should be laid in the sixth and seventh years. That is, up to the sixth year the child is acquiring facts of value, the "why" is not neglected, but we do not bear down hard upon it. In the sixth and seventh grades the controlling purpose is changed; facts must still be taught and many of them, but they serve largely to illustrate the study of causes and consequences and the larger relations which lift geography into the higher level of a disciplinary and cultural study.

A child who has studied geography in the fourth, fifth, and sixth grades of the Horace Mann School comes to the seventh grade with a fair general knowledge of the six continents, with a more thorough acquaintance with some important localities and trade routes, and with a few simple principles of geography and physics which he is learning to apply to the solution of geographic problems. Thus equipped he is set to work on his own country and the continent in which it lies, in order that he may have, before leaving the grammar school, that more intimate knowledge of the physical conditions and human activities of the United States and its neighbors which it is his right to claim.

The relation of geography to history in this year is very close, not from any effort to teach the facts of the one and the relations of the other at the same time, but because these relations are so real that the facts continually bear one upon the other. In geography the boys and girls study the stage across which the characters in the history move. Marquette and La Salle cross the portages between the St. Lawrence and the Mississippi, and step by step we follow them down the stream, finding traces of their journey in the French names with which the map is sprinkled. Or we examine the locations of Fort Stanwix and Fort Edward as we come to Burgoyne's campaign. Both forts are found to be similarly located: Fort Stanwix on the bend of the Mohawk to the portage leading to Lake Ontario, Fort Edward, where the Champlain trail strikes the elbow of the Hudson. The reasons for fortifying these points are brought out in the history lesson. The question why Fort Edward is to-day an unimportant town, while Rome has a population of over 15,000, is purely geographic, and its answer involves a principle which comes to the front again and again as we discuss the location and growth of Erie, Niagara, Pittsburg, Chicago, and St. Louis.

It may not be amiss before giving the outline of the work of the year to formulate some of the principles which are reviewed and taught during the year. For lack of space I have selected only a few of those to which we most often refer for an explanation of the facts and phenomena we study.

(1) As warm air is able to hold more moisture than cold air, a wind blowing from a cooler to a warmer region will be a drying wind; hence the trade wind belt is a belt of deserts.

(2) As water takes longer to heat and cool than land, a

wind blowing from a body of water on to the land will modify the temperature of the land; hence the western coasts of continents in the belt of westerly winds have a more equable climate than the eastern coasts.

(3) Regions similar in climate, soil, and drainage will have similar occupations.

(4) Manufacturing towns are likely to grow up near coal mines, as it is found cheaper to transport raw material than fuel.

(5) The presence of a mountain pass or water gap is favorable to the location of a road or town. Many battles have been fought for the possession of such a town or pass.

(6) The chief reasons for the location of towns are: a good harbor, the mouth of a navigable river, the head of navigation, a bend in a river, the presence of falls, nearness to mines, the junction of roads or rivers, a necessity for a break in transportation.

The outline given below presents the work of the year; not every topic, however, is treated with equal detail. As a rule those most emphasized are: the New England States, the Middle Atlantic States, the Coastal Plain of Eastern United States, The Northern and Central States of the Mississippi Basin, the Arkansas River as a type of a "Plains" stream, the Plateau States, and the Pacific coast States.

North America.

(General.)

Size, Position, Coast-line.

- Relative size of continent.
  - Relation in general to temperature.
- Latitude—Influence of nearness to pole on expeditions of discovery.
- Longitude—San Francisco nearly midway between St. Johns and the westernmost of the Aleutian Isles.
- Coast-line—Eastern and western compared as to harbors, outlets for commerce, necessities of defense. The continental shelf: where broad, narrow, value as fishing grounds. French fishermen discover Grand Banks. Chief bays, islands.

Surface.

Cordilleran and Appalachian	Highlands	Location and extent of ranges. Influence on occupation and settlement.
Central and Coastal	Plains	General character. Relation to settlement and occupation.
Drainage and Divides		River basins of Pacific and Atlantic coasts and Central Plain. Rivers as highways into interior. Routes of early explorers.

Climate.

Position as to heat and wind belts.
Temperature and rainfall.
  East and west of 100th meridian.
  Influence of winds, currents, and mountain ranges.
  Oceanic and continental climate compared.

Life.

Tundras. Regions of conifers and deciduous trees. Tropical forests. Arid regions.	The characteristics of plant and animal life, and of man and his activities in each region.

The first lesson of the year is generally an exercise in map reading, its object being to test the ability of each child in this direction, to extend his knowledge and use of maps, and to acquaint him particularly with the contoured sheets of the United States Geological Survey. These maps offer such splendid illustrations of the relation of man to his environment that we can ill afford to pass them by when we are trying to emphasize certain geographic relations. The points covered in this exercise are as follows: the meaning of scale and how it is expressed, the interpretation of colors and other symbols, the meaning of contour lines, the method of indicating latitude and longitude, and how to orient a map. The methods of expressing scale—1 : 40,000,000 or —$\frac{1}{63.360}$ are explained and maps of different scales are examined and compared. Questions are asked which will test the understanding of colors and other map symbols. Then we take an excursion across the river to the Palisades, armed with a compass and a contour map of the locality. The meaning of these lines is apprehended as we climb the cliff and reach the plain on top. At a convenient point on the westward slope of the Palisades we obtain a view of the Hackensack Valley and the Jersey Highlands. Here we orient the map by means of the compass, point out the large features we see, and measure the height we have climbed and the distance we have walked. When we return to the schoolroom the map is oriented on the table and the direction of these features again determined. We then draw our meridian line on the floor and fix the direction of well-known points such as Brooklyn Bridge, Newark, Sandy Hook, and Albany. We find the latitude and longitude of New York from the map, and its approximate latitude and longitude in Europe and South America. This gives the opportunity to review the notions already gained of the relations between latitude and length of day, and our meridian and the noon-hour. Other opportunities to review connections between these facts and their relations to life are abundant. When Tom leaves the geography class and takes a trip to Mexico, the settlement of the question "To what hour do the hands of Tom's watch point at this moment?" awakens spontaneous interest; and when longitude and time are studied in the arithmetic class the value of these facts and their relations is again emphasized.

The general treatment of North America which precedes a detailed study of the United States is largely in the nature of a review. Facts and principles learned in earlier years are brought into requisition, and as the new data presented will be recalled and fixed by repetition and enlargement later, only a short time is spent on the outline just given. The topic of *climate* receives special emphasis, for an understanding of its causes and consequences is the key to a large number of problems we have to solve; besides this, no other topic affords so excellent an opportunity to collect and study facts, and to predict and search for consequences.

An example of how the chief facts about the temperatures of North America are collected is given below. The results are taken from a paper of a seventh-grade boy and are accurate enough to enable him to draw correct conclusions. Each child is provided with a map of North America, one of the United States, and temperature maps of the world showing the isotherms of January and July.

TEMPERATURES OF NORTH AMERICA

Sections	Places	January	July	Range
West Coast	Sitka	30°	60°	30°
	Vancouver	30°	60°	30°
	San Diego	52°	65°	13°
East Coast	Nain	10°	50°	40°
	Quebec	20°	60°	40°
	Charleston	50°	80°	30°
Central Plain	Port Nelson	—10°	50°	60°
	Winnipeg	10°	60°	50°
	Vicksburg	40°	80°	40°

From these data the conclusion is drawn that the western coast of North America has in its northern and central portions a warmer, more equable climate than the eastern coast, and that the central part has greater extremes than the other two. Recalling what we have learned of the climate of Europe and Asia, we find we have here a direct consequence of a general law, that the interior of a continent in the belt of westerly winds has greater extremes of climate than either coast, and that the western coast is warmer than the eastern. The causes that produce this result are then sought for and some effects of these physical forces on life conditions are suggested. Our boys and girls are always very responsive in enriching such instruction with their own observation and experiences, for many of them travel extensively and the majority read the best magazines and newspapers.

Along with this work of development go the drill exercises which help to fix important data. Outline maps are filled in with facts of climate, surface, or life; a written statement of the general law involved in each case and its application to this continent is asked for; a list is made of each vegetation region with the name of a characteristic plant or animal in each, and the locality where it may be found; a written description of life in one of these regions, with an accompanying sketch in color or pencil, is often made. In fact this kind of work is as varied as the ingenuity of the teacher and pupils makes possible; the results form excellent material for drill questions which rouse a class into an attitude of alert attention.

After this general work on North America, we proceed to detailed study of the United States.

United States.

Location and Size—Boundaries, use of parallels and meridians in fixing boundaries. Relative size compare with Canada, Brazil.

New England States.

- Name and location of States.
- As a part of the Appalachian highland. The White and Green Mountains, Mt. Katahdin. Rocky uplands and pastures, rich river valleys. and sandy plains. The presence of boulders and stone walls.
  - Indented coast making for harbors.
- What the industries are—how influenced by climate, soil, character of rivers, coast-line.
  - Compare climate of Boston and Burlington with New York. Where farming pays and what crops are raised; tobacco in Connecticut valley and Virginia.
- Why manufacturing and commerce have developed. How coal from Pennsylvania reaches factories. What raw materials are sent into the region. Fishing centers.
- Centers of Population.
  - Seaports, manufacturing towns, commercial centers, fishing towns, summer resorts.
  - Chief routes in and out of sections.

Throughout the course frequent use is made of photographs, of lantern slides,and of the excellent pictures in Dodge's *Advanced Geography*. During a lesson with the lantern a distinct effort is made to associate the picture shown with the locality, and such a lesson is always followed the next day by a review of the points made and the pointing out on the map of each locality named.

From these sources the children get a notion of the rugged New England upland, the rich open farming valleys, and the indented coast. From the text they read about the glacier that once spread over this part of North America, accounting largely for its diversified surface, and they see that because of this diversity farming cannot be carried on as in the extensive prairies of the middle West. They find the reasons why this section has developed manufacturing and commerce, and in accounting for the location of some of the large towns they begin to formulate general principles influencing settlement and occupations which will come up repeatedly in further study.

Middle Atlantic States.
- Size, position, climate.
    - Largest in area, in population.
    - Position in glaciated area—infer as to diversity of surface.
    - Compare with New England in climate.
- Surface, industries, cities.
    - The Adirondacks.
        - Summer and health resort—hunting, fishing, lumbering—conservator of Hudson waters.
        - Manufacturing towns on slopes.
        - Champlain pathway.
    - Mohawk-Hudson Valley.
        - Easy grades from New York to Buffalo and West compared with routes across Pennsylvania. Influence of this on development of New York. Commercial routes.
        - Scenery and industries along Hudson.
    - *New York City.*
        - Extent, surface, boroughs, water front, commerce. Manufacturing, financial, and educational center.
    - Mining industries of Allegheny plateau and mountains.
        - Mining and manufacturing centers.

How coal is distributed to New York and New England.
How iron ore from Michigan reaches Pittsburg, Norfolk, Baltimore, Philadelphia.

Southern States: North Carolina—Texas.
Names of states—location.
Climate—temperature, winds, rainfall of Norfolk, Charleston, New Orleans.
Surface—Atlantic and gulf coastal plain—Appalachian highland.
Products and Industries—staple products, forests, mines, black belt, truck farms, etc.
Seaports—commercial centers—routes.
Influence of climate and soil on history.

The emphasis in this section is on the great agricultural area of the Coastal Plain, a region whose parts are essentially similar in climate, soil, and drainage, hence also similar in occupations, though the crops may differ in response to minor variations of soil and climate.

In order to vary the method of presentation from that of preceding topics a set of printed questions, such as is shown below, is given to each child with references to text and atlas to help him work out little problems unaided; a certain amount of class discussion, however, precedes the work he is expected to do by himself. Each pupil writes his answers on a separate sheet and a part of each lesson is devoted to the discussion of these results. We do not expect that all the facts asked for will be remembered. The chief value of the exercise lies in working it out, for even if the facts are forgotten the child is learning where to go for geographical information and how to use what he acquires.

Before giving this question paper to the class, a general idea of the surface of the Coastal Plain is given them by the teacher, aided by a good physical map and pictures of the pine barrens of New Jersey, a cotton field in Georgia, a stretch of tide-water in Virginia, or of rice fields in South Carolina. A United States Geological Survey map showing the coast features is also used a little later. A cross-section is drawn on the board showing the sky line from the Blue Ridge across the Piedmont and Coastal Plain to where the gentle slope meets and passes under the ocean. Pictures and maps are compared with this diagram, and Piedmont, fall-line, plain, shore-line, lagoon, and sand-bar become familiar. The boys and girls are quick to perceive the relation between the rapids at the fall-line, the head of navigation, and the manufacturing towns there, as well as the equally close relations between climate, soil, products, and industries.

The children show great interest in the study of the coast features, for many of them summer on the Long Island or New Jersey shore, and have fished in the lagoons, visited the light-houses, or watched the life-saving crew patrol the dangerous coast. They recognize that what is true of the shore that they know is a characteristic of the eastern and southern coasts of the United States; they learn to what to attribute the lack of harbors on long stretches of sandy coast, and appreciate more fully the importance of the drowned valleys of Chesapeake Bay, Charleston harbor, and others like them.

The Atlantic Coastal Plain.

Map[1] 11. 1. Examine the eastern slope of the United States from New Jersey to Florida and from the Appalachian Mountains to the Atlantic. What part of this slope is hilly, what part low and nearly flat?

Maps 11 and 13 2. Study the coast and make a list of the special features you find. Underline those you have seen either on this coast or elsewhere. How is such a coast made less dangerous for passing ships? What are the chief occupations of the people who live on the New Jersey shore?

Map 11. 3. Trace the range of hills that marks the inner margin of this plain. How high are they? How do they differ from the Palisades in appearance?

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[1] The maps referred to are in Longman's *School Atlas*.

4. Name the States through which these hills run. Make a list of the larger rivers that run across these hills to the ocean. Examine the mouths of these rivers. Does the tide run up all of them? Why does the Roanoke have no town at its mouth?
5. Where is the head of navigation on each river? What reason can you give for the location of so many towns at the Fall-line? Fill out the following chart for the States from North Carolina to Alabama.

States	Rivers	Towns on Fall-line	Seaports

6. On an outline map write the name of each State and indicate the head of navigation of one river in each State. Locate Charleston, Savannah, New Orleans, and Galveston.

Maps 4, 5, and 15.

7. On the margin of your map write the January and July temperature and wind direction of Charleston and New Orleans. Write the yearly rainfall of these places.

Maps 142, 144–146, 148.

8. Write on your map the products of the Coastal Plain area of these States, and color the States which rank first in the production of cotton and sugar.
9. Which is the largest city of these States? Is it in the Coastal Plain area? Which State has the largest population?
10. What advantage has New Orleans for the export of wheat over New York? Any disadvantages?

It is by some such procedure as this that we acquire the encyclopedia and atlas habit. This habit is easy to develop in many children. I do not say we succeed in training all of them to be alert and persistent in acquiring geographical information in this independent fashion, but we put the stimulus there and hope for results. I recall an example of untiring effort after a fact of geography which roused our boys and girls to admiration. The question came up why Cape Disappointment at the mouth of the Columbia River was so called. Two boys were chosen to hunt for the answer and recourse was first had to that useful pamphlet entitled "On the Origin of Place Names in the United States." A partial answer was obtained, but the class was not satisfied. The boys were then directed to our college librarian and were told by her to look in a volume of memoirs of the captain who named the cape. Part of the play-time that afternoon was used in going to a well-equipped library near by to look for this book. After a long wait, occasioned by the necessity of hunting out unused and dusty volumes, the attendant placed the book before the boys, remarking in rather an exasperated tone that the book was in French, and old French at that, and could not possibly be of any use to them. "Oh, but we can read French," the boys joyfully replied, and the next day saw them triumphantly relating their experiences as well as the desired information to their expectant comrades.

Central and Northern States of the Mississippi Basin. Prairies and Plains.

Sequence of topics as found in Dodge's *Advanced Geography*, pp. 152–165. Points especially emphasized are:

1. Fitness of climate and soil for raising great crops and herds. The influence of this and the amount of rainfall in determining industries.
2. Commercial importance of the great lakes and the Mississippi, and their influence on our history.
3. Reasons for the location of the great cities—Chicago, Duluth, St. Louis, Omaha, Kansas City.
4. Traces of French and Spanish occupation.

The Arkansas River, a type of a "Plains" river.

Upper portion—torrential, the Royal Gorge, occupations.
"Plains" portion—disappears in sands; shallow valley; farming where wells can be dug—windmill the feature of the country. Population scanty.
Lower portion—a normal river as it enters region of more rainfall. Occupations.

The Plateau States.

Colorado taken as a type of a Rocky Mountain state. Relation of surface to occupations. Scenic and health resorts. Commercial and mining centers. Routes from West to East, use of mountain pass by railroads.

Pacific Coast States.

Size as compared with Atlantic States.

Location—approximate latitude of Seattle and San Diego.

Climate—Review of the work done on the climate of the coast in the general study of North America.

Surface—Ranges, valleys, arid portions. Influence of ranges on rainfall.

Industries—Fisheries and lumbering of the Columbia. Wheat farms, big trees, fruit farms of southern California, desert products.

Cities—Towns of the Sound Valley, southern California. Importance of San Francisco harbor.

Trade Relations—West and south with the Pacific. Trunk lines to eastern coast.

I have tried to show in the preceding pages that our lessons are not assigned directly from a text-book as so many paragraphs or chapters to be learned, but that the text is a reference book to be used in the answering of questions or the solving of problems. These answers are found not only in the written text, but in the maps, pictures, and diagrams which illustrate and enlarge the text, and in the reference tables in the appendix which contain statistics and comparisons of value. The following questions show one use to which such an appendix can be put, the exercise serving as a review of some of the larger facts in connection with the United States.

REVIEW EXERCISE BASED ON THE REFERENCE TABLES IN APPENDIX. (Partial list of questions.)

1. Make a list of the countries of North America and opposite each write its population.
2. How many States and Territories has the United States? Name the largest, the smallest.

3. Which state is most densely populated? Which has the largest population?
4. Make a list of all the States which have any sea-coast.
5. Locate the first ten of the twenty-five largest cities of the United States.
6. Which of these *ten* are included in the twenty-five largest cities of the world?
7. Which of the cities in answer to No. 5 were cities in 1783?
8. From the "twenty-five cities of the United States" tell those you have visited or passed through. Locate each.
9. Underline those cities of the twenty-five largest of the world which are capitals.
10. What are the chief products of the United States? Which of these are chief exports?
11. Make a list of the chief imports to the United States, and opposite each the country from which it comes.
12. What country surpasses the United States in the value of exports?

The next topic is the dependencies of the United States—Alaska, Hawaii, Porto Rico, the Philippines. The treatment of these countries is brief and follows the text in Dodge's *Advanced Geography*, pp. 174–181.

The Dominion of Canada.

General review of surface, climate, drainage, and plants and animals, from the work done in North America at the beginning of the year.

Nova Scotia, Prince Edward Island, New Brunswick.

  Occupations—fisheries, mining.
  Towns—Halifax, St. Johns.

Quebec.

  Industries.
  Cities—Montreal, Quebec.
  Trade routes.
  Attractions for tourists—scenic, historical.

Ontario.
  Influences of location and climate on "The Garden of Canada."
  Products.
  Cities—Ottawa, Toronto, Port Arthur.
Manitoba.
  Wheat area.
  Winnipeg—commercial importance.
British Columbia.
  Scenery.
  Forests and mineral wealth.
  Canadian Pacific Railroad.

Mexico.

Influence of surface on climatic belts.
  Hot lands.
  Temperate lands.
  Cool lands.
Rainfall of east and west coasts and interior plateaus.
Variations in products responding to climatic differences.
Mineral wealth.
Trade and cities.

Central America and West Indies.

Questions and Exercises based on text, pp. 196-200.

After our lessons on the different countries of North America have been completed, it remains to gather in a general survey the parts we have been considering. From six to eight lessons are given to this review and the work is based on the pages in our text-book devoted to a summary of the world's commerce and industries. We examine the maps showing the great food producing areas and mineral regions of the world and compare them with each other and with the United States in location, extent, and importance. This comparison has not been omitted, however, in our sectional study; we turned to the industrial towns around Essen and Birmingham when we were learning about the manufacturing industries of Pennsylvania, and we contrasted our great railroad centers of Chicago, Buffalo, and

New York with Paris, Vienna, Berlin, and London. The chief object of this final summary is to consider the United States in its world relations, and as a world power. The reasons for its rapid advancement and acknowledgment by the older countries will not be difficult for any boy or girl who has faithfully done his part in the preceding work of the year.

Our geography teaching would fall short of one of its chief purposes did it not cultivate a real geographic interest in our boys and girls—that is, a wide-awake habit of looking out for items of geographical information in what they read or hear or see. Twice each month we spend half an hour on current events, and these lessons contribute largely, we believe, to the stimulation of this habit of mind. To this lesson each pupil brings the morning newspaper and the hour is spent in hunting for geographical news, locating places named, and discussing the event.

The outcome of the lesson is a record of current events kept during the week following by those who volunteer or are appointed as class representatives. The record is accompanied by a map on which the localities named are noted. At the end of a week the record is read before the class, the importance of the events discussed, and the places pointed out on a map of the world. In deciding whether the news item is of sufficient geographic value to be recorded the child's judgment is called into action. During the week that the record is kept the number of cuttings from the daily papers brought to the teacher's desk to be handed over to the recorders attests to the lively interest in this sort of geographical study.

Throughout the varied program of work thus outlined we aim to make the study of geography a living and attractive thing. The young student may forget a good deal of what we teach him, but he has learned how to use the common sources of geographical information that are at his hand, he is acquainted with certain fixed relations between our earth and the life upon it, and we feel confident that he will carry away from this study something of that lively interest and habit of investigation to foster which has been one of the larger aims of our instruction.

C. W. H.

ARITHMETIC

GRADE VII

The seventh year of the elementary school should find the pupil ready to complete the usual course in arithmetic so that he may be ready to begin algebra in the following year. In the preceding grade he has studied the four processes of addition, subtraction, multiplication, and division, with integers, common and decimal fractions, percentage, and simple interest, with a large variety of applications. At the beginning and the close of each year he has reviewed the subjects directly preceding and has been carefully drilled all along the line. He is now ready for a complete review so that he may understand not only the processes involved in his problems, but, in a more mature way, some of the principles underlying those processes. In other words we must gather up and weld together the knowledge of operations and of numbers which he has gained during these six years of his school life so that he may, if possible, enter the High School with a well-rounded idea of his course in arithmetic.

This is our ideal, but there are practical difficulties in the way. Unity of thought is seldom gained even by mature minds, and our boys and girls with their immature way of looking at things will, after all, get their knowledge in a fragmentary way in spite of our best endeavors. Many pupils enter the school for the first time just at this point. Others have lost somewhere along the line weeks perhaps, months, of the regular work. Occasionally a bright pupil is promoted from the fifth year to the seventh, trying by a few months of tutoring to fill in the gaps in the complete course over which he has literally "skipped." These practical hindrances in a fair and well-rounded scheme of education will always exist perhaps here, in a great city with a floating population, more than in other places. Few schools in fact keep for seven years a class of pupils intact. There need be no discouragement in this. It is because of these conditions that we need just here in the seventh grade even a more comprehensive and thorough review than in the preceding years. Then too, it is at this point in a child's development that he is ready for a more reflective study than in the lower grades. It is a period of very active growth of mind and body and of ever increasing consciousness of self. This leads to a timidity in attacking problems which younger pupils do not feel, and which can be overcome only by a clear understanding of principles and by explaining again and again to themselves and to others the difficult points involved. It is because of this make-up of the class that we must in our review of arithmetic teach again and again subjects supposed to have been mastered.

Of all the subjects taught in school perhaps the one least called upon during a child's vacation is mathematics. At the close of four months of freedom from school our pupils' minds are quite blank on the subject of arithmetic and quite ready to begin again some of the simple work in numbers. The subject of numbers and their written symbols is introduced at this stage from a fresh point of attack by giving a slight sketch of the history of the use of figures, and, the interest of the pupils being thus sharpened, a good deal of drill on reading and writing numbers is given. Blackboard work is used to a large extent in the class work with the object of concentrating the attention of the entire class on the points developed. Individual pupils are called upon to write and read different numbers, reviewing in this way Roman and Arabic numerals, the use of the decimal point, the use and value of the zero in writing numbers, the use and significance of the line between numerator and denominator, the use and significance of the parenthesis, etc. Each pupil is encouraged at this point to ask the right sort of question, and discouraged from asking the question which reveals lack of attention and thought. All honest attempts to get more light on the subject are approved, while the "lazy" or "showing off" question is sharply rebuked. Not many lessons are needed on this kind of work, since the reading and writing of numbers will be continually practised in the subsequent lessons. Addition is next reviewed, and the principle is again emphasized that only like units can be added. We let the pupils invent for themselves problems illustrative of this principle. Much rapid drill is given in adding columns and in checking by adding in the opposite direction, and always there is a time limit for such work. This is in the interest of accuracy as well as of rapidity. The work in addition is continued throughout the year by frequent five-minute drills.

Just a word should be said on the importance of the quick drill. If, at the beginning of every daily recitation in arithmetic, a few minutes are devoted to some variety of abstract work, it will be found to accomplish several very important results; first a preparation of the mind of the pupil for active attention to the work in hand; second, the gaining of facility in handling numbers; and third, a sense of power which will go far towards making arithmetic a live and interesting subject to its possessor instead of the bugaboo it often becomes, causing many a bright boy or girl to shrink from any question of his daily life involving the use of numbers.

Having cleared up the subject of addition, we take the opposite, subtraction, letting the pupils state for themselves the principle that only like numbers can be subtracted, and encouraging as many applications as possible of both addition and subtraction to the questions of daily life. The pupils write original problems involving the use of addition and subtraction, and then submit these problems to the class, placing their work on the board for criticism under these heads: "Is the problem a real one?" "Is it reasonable?" "Are the prices or statistics given such as would actually exist?" "Is it up-to-date?" "Is it worth finding out?" "Is it difficult enough to justify giving it to boys and girls of our age?" This sort of work creates keen critics and makes the pupils ashamed of presenting unthoughtful or slipshod work.

The five-minute drill now involves subtraction as a check on addition, and vice versa. The Austrian method of subtraction is taught, although no one method is insisted upon. If the pupil has the habit of subtracting rapidly and accurately, it is hardly worth while at this stage to change his method.

Multiplication needs, besides the kind of work we have done in addition and subtraction, a careful development of the abstract quality of the multiplier. Pupils often reach the seventh grade without a clear notion in this matter, and such statements as "25 men × $1500 = $37,500" are not only used in the written work but quite often defended. After the principle is clearly understood no statement of this kind is tolerated by teacher or pupil. If pupils are sent frequently to the blackboard to explain problems and are required to give a reason for each part of the process used, such careless handling of numbers can be eliminated by holding each member of the class responsible for detecting any error in the written or oral statement of the one explaining. Here again we find the five-minute rapid drill desirable in the review of multiplication. We do not drop addition and subtraction entirely, but vary the work by introducing multiplication. The rapid counting by two, three, four, five, six, etc., used in lower grades is reviewed again, and its use is made interesting by letting the pupils time one another and strive to "break the record" for counting by three, four, etc., to a hundred in the shortest possible time. We are obliged to handle this matter of counting with some care lest our nervous American children overdo the competition element, but if carefully managed this can be made interesting to active boys and girls. The five-minute daily drill is not exclusively oral. Written work with a time limit is also introduced, and abstract examples are placed on the blackboard, or occasionally dictated.

Division is reviewed with the same care as multiplication, and the principle is developed, if necessary, that the quotient of a concrete dividend by an abstract divisor is a concrete number; also that a concrete divisor can be contained in a concrete dividend only an abstract number of times. Nearly all seventh grade pupils are mature enough to understand this, and all must be made to conform to mathematical usage on this point in placing work on paper. Ratio is sometimes introduced here as a special form of division, and we review the division tables through such questions as "What is the ratio of 108 to 9?"—"of 12 to 108," etc.

Thus far we have dealt with whole numbers in our review. We now review again the fraction, rapidly considering the use of the symbol, the meaning of the terms numerator and denominator, and the four processes, addition, subtraction, multiplication, and division. We find and apply the same principles as in our work with integers. A thorough review of business fractions is needed, however, and for our five-minute drill we vary our rapid use of the four processes by letting the pupils give the fractional equivalents of these fractions, or the fractional equivalents of the common per cents., as they are rapidly dictated. Other drills are given in finding without the use of pencil, 50% of a given list of numbers, 25% of another list, and so on. These drills are given until the pupil thinks of $\frac{1}{8}$ whenever he hears $12\frac{1}{2}\%$ and so on. The only two cases in percentage of much practical importance, i.e., finding a per cent. of a number, and finding what per cent. one number is of another, must be dwelt upon long enough to leave no uncertainty in the minds of the pupils as to the solution.

About three months of the school year is spent in this thorough review and in the study of fundamental principles. This may seem an undue proportion of time, but we find it well spent. If we are to send pupils to the high school with a well-rounded knowledge of arithmetic we cannot afford to slight this part of the work. The pupils themselves see the value of it and, although eager to begin business arithmetic, are usually quite ready to admit the necessity of a careful review.

We are generally, however, at the beginning of the fourth month, ready to take up the new work of this grade, a study of business operations and forms. The pupils have in a simple way studied interest in the sixth grade as a form of percentage, the money invested being the principal for the use of which a number of hundredths is annually paid the investor by the bank. We are now ready to study the different kinds of banks in which money may be invested. The boys of the class, and often the girls as well, already have a slight knowledge of banks and are easily led to group them under three common heads—the Savings Banks, Banks of Deposit, and Trust Companies. They learn that the Savings Banks as a rule pay interest, while the Banks of Deposits commonly do not. The functions of the Deposit Bank and the combination of bank functions in the modern Trust Company are developed. We establish a bank in one corner of the schoolroom and appoint as tellers the most accurate and rapid computers in the class. The Bank of Deposit is chosen as the type of bank to be illustrated, because this will give the best opportunity for practice in making out business papers of various sorts. Before the school bank is put into actual operation some further instruction is given in the use and value of the Savings Bank and the method of computing interest. The pupils are led to find simple interest at different rates. The rate common to New York City is most frequently used, and information is immediately forthcoming as to varying rates used in our city. The common method of computing interest, by finding

$\frac{1}{12}$ of the annual interest to get the monthly, and $\frac{1}{360}$ to get the daily interest, is shown, and considerable practice in this method is given. For rapid drill work the pupils now practise giving quickly the interest at varying rates for varying times on varying principals as follows: The interest on $2000 at 6% for 2 years, on $2500 at 5% for 3 years, for 6 months, for 4 years and 3 months, etc. The pupil is led to see that the interest at 1% = $\frac{1}{100}$ of the principal; at 6% 6 times as much; for 2 years twice that; for 6 months ½ as much as for 1 year, etc. After thorough drill on the general method of computing interest, the 6% method is shown, the pupils having found from experience that an easier method is needed in cases where the interest for the uneven number of months and days is to be reckoned. That a rate of 6% for a year means 1% for 2 months is developed. The whole class goes to the board, each with a different principal, finding the interest for 2 months, 3 months, etc., up to 11 months. The pupils then discover that since 2 months equal 60 days, the rate being 1% for 60 days must be $\frac{1}{10}$% for 6 days or, in other words, $\frac{1}{1000}$ of the principal. The pupils again go to the board and find the interest for 6 days, and so on up to 29 days, each one using a different principal. The rule for the 6% method is then formulated by the class and applied in a number of problems and the interest is found at other rates by both the general and 6% method, the pupils being led to decide for themselves by actual comparison when it is easier to use one method and when the other. The use of interest tables at the bank is explained and the pupils are required to make a small interest table and use it in computing interest.

We are now ready to open our school bank of deposit and to show its variety of uses. Each pupil provides himself with an envelope of blank business forms, a quantity of toy paper money, a bank book, a check book, and a blank account book. The class resolves itself into a number of business firms. At first every one goes into the grocery business and each establishment consists of one pupil. The keeping of a simple account is taught and practice is given in making out deposit slips. Each pupil then presents his bank book, deposit slip, and paper money at the bank for deposit, and the appointed pupil-bookkeepers enter deposits at the bank and return the bank books to the depositors. Business transactions of an imaginary character now begin, and the boys and girls are taught the proper filling out of the blank checks and how to cash them at the bank, payments from one pupil to another being made by check for the sake of practice. Every transaction is entered in the account book and also in the check book, and no check is accepted at the bank until approved by the teacher, to prevent carelessness. At this stage the pupils begin to discover the practical benefit of combination as an aid in auditing accounts, as well as in other ways, and requests are made to join forces in some way. Corporations and partnerships are studied and are duly organized from the class. Individual tastes begin to crop out and we have firms of lawyers, dealers in real estate, artists, carpenters, wall paper and carpet designers, booksellers, printers, and so on. As the imaginary trade flags—boys and girls at this age caring more to produce than to use the productions of others—the need of advertising is broached. The printing firms are soon doing a brisk business in printing advertisements, for which the school bulletin board is rented at so much per space by the bulletin board committee. When trade flags again an agent is suggested and the subject of commission developed, several pupils accepting the position of commission merchants. After three or four weeks of business arithmetic in this form, a thorough review is given on all the kinds of business transactions thus far developed and for the rest of the year business transactions are relegated to before and after school periods, when the bank is declared open and a lively buying and selling trade carried on. The interest the pupils take in this business gives practice enough in the making out of business papers of all kinds to insure a good practical and critical knowledge. Of course, it is necessary to change the bank tellers occasionally and to select only those who can be trusted for their accuracy.

Borrowing money on orders is next taken up in class and the approved form of note drilled upon, with the reckoning of bank discount. The practical application of this cannot be easily carried out at the school bank, because of the shortness of the school term, notes being generally supposed to run at least for 30 days. Business letters are written in class ordering goods of different kinds. A study is also made of drafts, and of money and express orders, as other modes of paying besides the check, and the advantages of each are discovered.

Frequently the class asks for a business period in place of the regular recitation in arithmetic, and when possible this is given as a reward for good work. Foreign exchange and stocks and bonds are left until the next year.

The work outlined usually takes until April. We spend the next month on mensuration problems, still keeping up our rapid drill on the four operations, five minutes daily at the commencement of each period, and letting the business practice go on in the spare time before chapel exercises in the morning and on rainy recesses or whenever a spare moment occurs.

The pupils from their preceding work recognize and name rectangles, squares, oblongs, the obtuse, acute, scalene, isosceles, and right-angled triangle. They know also the common units of measure and have had some practice in reduction and in the four operations as applied to denominate numbers. Various problems in measurements of surfaces are now worked out; the dimensions of the schoolroom floor, windows, doors, and blackboard are found by actual measurement, and the area of their surfaces determined by computation. We have found it a good exercise to let the class guess the result when the dimensions are given and compare their estimate with the true results. This leads to care in getting a reasonable result when they work out the problems of the book. The text-book, Smith's *Grammar School Arithmetic*, gives many valuable problems along this line, and the pupils study out for themselves from the book a method of finding the area of the triangle from their knowledge of the area of rectangles. They cut paper to prove that a triangle has half the area of a rectangle of the same base and altitude, and are ready for the next step, *i.e.*, the use of triangles in measuring heights of buildings, trees, etc. When ratio is not taken earlier with the review of division it is taught here together with simple proportion. After considerable drill with abstract numbers we use the practical applications in the text-book and groups of pupils are detailed to measure the height of the schoolhouse, Teachers College, and other buildings in the vicinity, by means of the right-angled triangle. This group work is given in place of the regular home lesson from the text-book, and is reported upon to the class. The report is criticised by them, the figures and a sketch being placed upon the blackboard and a clear explanation insisted upon. We next, using paper cutting as before, study out a method of finding the area of the parallelogram, and formulate the rule for doing so. The pupils easily discover for themselves, by cutting and fitting together the cut pieces, that the parallelogram produces a rectangle of the same base and altitude, and from their previous ability to find the area of the rectangle they are now ready to apply their knowledge to the solution of text-book problems. The area of the trapezoid presents more difficulty and again paper cutting is resorted to. Sometimes the pupils are asked to experiment at home and, if the proper spirit of independence has been developed, they will resent any attempt to help them, preferring to find the truth for themselves. In this way they discover that two trapezoids form a rectangle whose altitude is the same, but whose base is the sum of the parallel sides of the trapezoid. They then formulate a rule for finding the trapezoidal area by halving the square contents of such a rectangle. Lastly we apply our several rules for finding area to problems in measuring irregular shaped lots of land which can be divided into triangles, trapezoids, and parallelograms, so that the area of each being found the sum of their areas will give the required result.

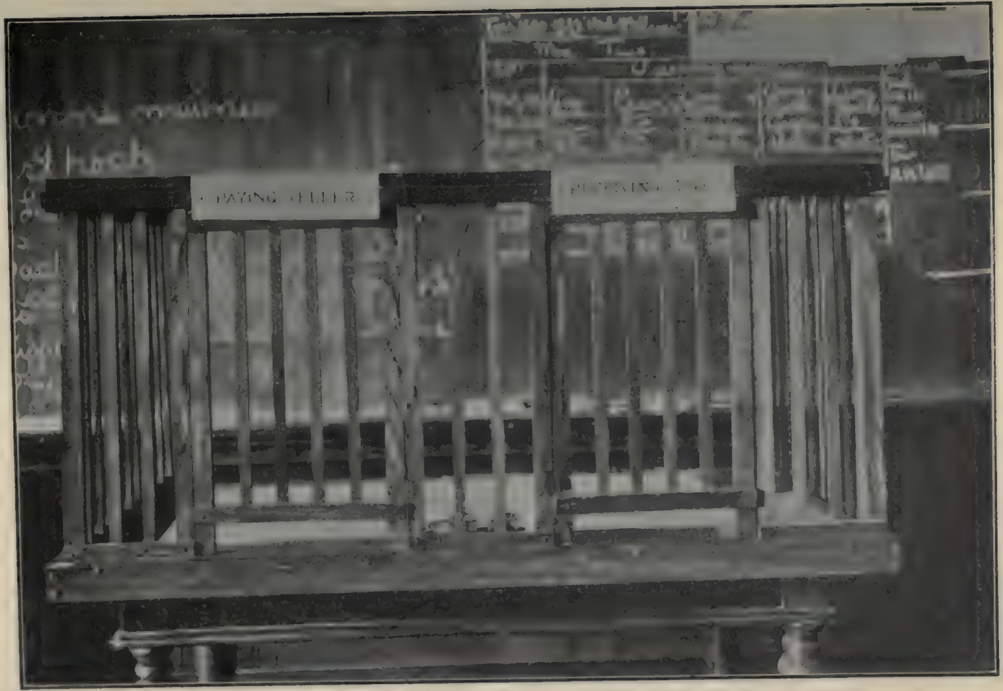
After surface measurements have been taken we consider cubic measure. The pupils fill an empty box with inch cubes and find that there are as many cubes in the first layer as the product of the number of units in the length by the number of units in the breadth, and that they need as many such layers to fill the box as there are units in its depth. From this they formulate for themselves a rule for finding the cubic contents of a rectangular solid, and apply it in the solution of the text-book problems. This work in cubic measure has, of course, already been taken in a lower grade but is re-developed here when necessary to prevent the common mistake of adding the three dimensions to find the contents. We do not as a rule take the subject of circle measurement or the contents of spheres, cones, and cylinders in this grade, although sometimes advanced pupils have been allowed to employ spare moments in working out problems of this sort.

The pupils are interested in mensuration to such an extent that they often try experiments of their own at home and bring in problems like that of the Sirdar's chessboard and other puzzles.

We encourage this puzzle inventiveness as much as possible, but keep it rather for free periods and recesses than for the regular class-room work. There will always be pupils who outstrip the rest in mathematical ability and to them can be given the advanced problems in the text-book. We have already in the sixth grade taken the simple algebraic equation with the use of x. In our practical problems this use of the simple equation has been continued, and as the year's work draws to a close we give as much practice as possible in problem solution, letting each pupil go to the blackboard to sovle problems from various parts of the text-book in review. The last few weeks of the term are given up to this varied review work, every member of the class holding himself ready to question any part of the problem not understood or not made clear by the one explaining. Special rapid drill in the last weeks is also given on factors and multiples, the teacher naming multiples and the pupil giving the factors, and vice versa, as a preparation for the work in algebra in the following year.

A word should be said as to the preparation for the arithmetic lessons in this grade. We have but four half-hour recitations a week, hence the pupils' preparation must be made at home. What that preparation must be is largely determined by the recitation. After the pupil finds, early in the year, that in the arithmetic lesson he is expected to defend any statement he makes, to be equipped to explain each problem he works to the satisfaction of class and teacher, to be able to answer rapidly all questions involving review work, and to perform the four processes with abstract numbers within a given time, we have little trouble with home help. Parents frequently report the scorn and derision with which their offers of help are received, and although lazy pupils sometimes rely too much on outside assistance a very healthy class spirit of independence prevails. On the other hand the teacher sometimes asks bright pupils to assist slower members of the class by questioning them, but they are warned not to do the thinking for their classmates. The daily problem work is placed in small blank books made by the pupils by doubling sheets of the ordinary arithmetic paper and fastening them together. Every other page is left blank for corrections and the pupil's first duty in preparing each lesson is to correct any examples marked wrong on the preceding pages of the book. When the book is filled it does not become the pupil's own until all the examples have been correctly worked. The entire work is always insisted upon and if any flaw or omission in the work is noted, the example is not accepted although the final answer may be correct, this being a very effective preventive of inaccurate or untruthful work. Frequent written tests are given throughout the year, the regular recitation period being used for these.

L. E. R.



Bank Used in Arithmetic, Grade VII.
(See pages 480 and 503)

MANUAL TRAINING (Girls)

Grade VII

The questions are sometimes asked: Why should the subject of cooking be included among the seventh grade studies? Of what practical value is it to so young a girl? Ought the school hours already so crowded with necessary subjects be given to cooking, a subject which can be taught in the home when the girl is old enough to make it worth while? These questions can be answered in some such manner as this. It is true that for a seventh grade girl in the Horace Mann School there is no real necessity for a practice of her knowledge in this field at home, nevertheless it is stated as a psychological fact that this is the formative period, that is, that the girl's interests, tastes, and power of efficiency are at this time being formed. If this is true, then the foundation should be laid for an interest in and a taste for domestic matters. And while it may not be an absolute necessity for these girls to cook and perform other household processes at home, it is true that they do a great deal without that necessity and with very good success, often arriving at the point of cooking an entire meal for the family and of taking upon themselves much of the burden of cooking in the event of the departure of the cook. In answer to the argument that the girl may learn cooking in the home, facts do not bear out the truth of this statement. In the past, conditions of life were such that the girls, even in wealthy families, were trained in all branches of house-keeping and even the young children had each a share in the household duties. This is not the case at the present time with girls of the more well-to-do families. Living in hotels or apartment hotels is an absolute barrier to this, and those mothers who keep house often have too many outside interests, and are too much taken up with social duties to give their daughters opportunity for this training. The cook is an awe-inspiring person who allows no one within her domain, and so it goes on until the girl arrives at the marrying age and still retains a dense ignorance of the working of the domestic machine. Therefore it would seem that school is the only place where the girl will receive such training.

Looking at it from an educational standpoint, in what does this subject fall below other subjects in value? It is a generally accepted standard that all subjects which do not have a vital bearing on life shall be removed from the curriculum. It must be admitted that on this basis this subject should have a prominent place. It has a rich body of subject matter of its own, dealing as it does with many phases of the food problem—the production and manufacture of food materials, their wholesomeness and digestibility, the study of the food elements and the effect of heat upon them. It introduces the pupils in a simple and interesting way to the sciences. The action of sour milk and soda upon each other, and their effect in making cake light, opens up the whole subject of acids and bases in chemistry. The rising of the cake in the oven is an illustration of the expansive force of heat. The growth of yeast in bread and the prevention of the fermentation of fruit prepares the

Domestic Science Laboratory. Grade VII.

way for the study of bacteriology, and so on through many instances.

Domestic science is one of the best means for training the girl in the power of forming correct judgments and deductions, of seeing the relation of cause and effect, since in this subject the results are so immediate, so clearly and vividly seen. This may be shown by taking as an example a lesson on soft custard. In the cooking of the egg, the principle learned is the coagulation of the albumen at a low temperature and its hardening and toughening at a high temperature, and in the custard lesson its application is in the fact that excessive heat or prolonged cooking will produce a curdled custard. The result of the action of heat on the egg is so rapid and complete that the pupil may trace, at once, the connection between the cause and its effect.

One should not forget to mention the training this subject gives in neatness, order, foresight, practical management, and personal responsibility; and where children are working together so closely and actively, thoughtfulness and helpfulness are necessarily developed.

The work in cooking in the seventh grade is limited to one lesson a week of one hour and a quarter in length. The aim of the course is to give an elementary knowledge of the effect of heat on food elements; of the various typical cooking processes; and also to give training in manipulation.

Children of this age not only crave but need much physical activity. Their natural interest is on the doing side, to make things, and this being the habit-forming period, is the time to teach proper manipulation and the use of tools. At the same time, they are sufficiently advanced to be eager to find out the reasons for things. Hence the course attempts to combine practical work in cooking and cleaning with discussion of theory, in such proportions as to make the work intelligent and alive, as well as desirable and interesting to the pupils. The general proportion of discussion and practical work in each lesson is about one to three, with an occasional lesson devoted to simple chemical and physical experiments.

A list of lessons follows.

1. Baked apples and dish-washing lessons
2. Apple sauce
3. Cooking cereal

4. Review cereal, moulded with fruit
5. Corn starch pudding
6. Experiments on starch
7. Study of egg. Scrambled egg
8. Soft custard
9. Chops
10. Beef tea
11. Creamed potatoes
12. Cream soups
13. Candy lesson (holiday time)
14. Popovers
15. Sour milk griddle-cakes
16. Muffins
17. Ginger bread
18. Baking powder biscuit
19. Light omelet
20. Sponge cake
21. Baked fish
22. Waldorf salad
23. Lemon jelly
24. Orange charlotte
25. Experiments on yeast
26. Bread
27. Rolls
28. Canned pineapple
29. Strawberry jam
30. Chocolate, sandwiches
31. Strawberry shortcake
32. Review
33. Ice cream party

The first two lessons are selected because of their simplicity, and because they give opportunity to introduce the idea of the changes effected on food by cooking and to teach the subjects of dish-washing, care of room, etc. The next four lessons take up the subject of starch in various forms, reserving experiments until the last. This method proves more satisfactory with these children at this time, as their interest is more keen in finding a reason for a thing after they are familiar with the material. Then follow four lessons showing the effect of heat on proteid foods; then two more on starch. Then follow five lessons on batters and doughs which illustrate the historical development of leavening agents, omitting yeast until later. Next follow two lessons to show the beating of air into egg, its retention on adding other ingredients and its cookery under these conditions. Next comes a lesson on baked fish where the children work in groups on one large dish. After this, three constructive dishes, giving the pupils opportunity to exhibit their individual ideas in decoration, garnishing, and serving. The next five lessons illustrate the processes of fermentation: its encouragement in the case of bread and its prevention in canning and preserving. The experiments here precede the actual bread-making since the pupils have become sufficiently familiar with materials to make this a desirable method of procedure. The rest of the lessons are devoted to a review or are social in their nature. The subjects of the lessons are selected with reference to the home needs and tastes of the children and the shortness of the time given to each lesson. Those lessons which must necessarily be long, as in bread-making, are divided in such a way that two or more periods are given to what is really one uninterrupted process.

The course gives frequent opportunity for review in the recurrence of principles learned before, as in the development of sponge cake from omelet, and of cream soup from cream sauce. Also the processes of manipulation are considered with respect to their increasing difficulty from the simplest forms of stirring to the beating and cutting and folding of the whites of egg in the sponge cake.

The method of presenting the lesson attempts to conform to the standards accepted for all elementary school work. A lesson on light omelet may be taken as typical of what is done throughout the course.

The statement is made by the teacher that an omelet is to be made and various kinds of omelet are named by the pupils. This particular one is to be a light omelet or omelet soufflé. The necessary ingredients are named by the pupils from memory, since they are more or less familiar with the dish. These are placed on the board together with the amounts of each to be used. Since the method of mixing and the manipulation necessary is largely new, the process is demonstrated by the teacher, the pupils gathered about her. This word "demonstrated" does not mean that each step is explained to the children without any of their faculties being brought into play except attention and memory. Each step is suggested by them and they are constantly questioned on their past experience, as "If I want to make the omelet very light what must be done to the egg?" "If all the air possible is to be beaten into the egg, how would you advise me to proceed?" (They have already had one lesson on separating the egg in the floating island lesson). "Which part shall I beat first?" "With which part shall I mix milk and seasoning?" "Since I have been at such pains to beat my egg full of air, what must I be careful of now in mixing the white with the yellow?" "Let us see how this can be done." The cutting and folding method of mixing is here shown, care being taken not to break the bubbles. The kinds of fat that might be used for greasing the pan are suggested by pupils, butter being used here for flavor. The temperature at which egg should be cooked is reviewed and a turning down of the gas suggested as soon as a brown crust is formed. The expansion of the air bubbles with the heat is noted and—"What will happen to the omelet when it becomes cold?" is asked, the necessity for eating an omelet immediately being readily seen. The cost of eggs is spoken of. Suggestions are then asked for as to the cooking of the egg on top without rendering the entire omelet tough. The oven is finally thought of as a means for bringing the heat over the top. Ways of serving and garnishing are asked for and the omelet is finally folded and slipped on a hot plate. A summary of the entire process is then given by one pupil with suggestions and corrections by the others, and then the most important points are picked out. The pupils then each make an omelet, which is criticised and eaten. Dishes are washed and places left in order. Since the pupils do not finish their dishes at the same time, a summary of the entire lesson at the end of the period is impossible but an attempt is made to give one at the beginning of the following lesson, the review being frequently conducted by the children themselves, asking each other questions on the lesson.

Often the finished dish is placed before the pupils at the beginning of the lesson that they may see what they are to work toward, and from this model, by tasting and examining, they name the ingredients and often tell something of the method of mixing.

Occasionally, the pupils experiment for themselves with ingredients, as in the lemon jelly lesson. Where there are only three materials, liquid, gelatine, and sugar, to deal with, it i possible for them to find out for themselves proportions and method of putting together.

Two sets of note books are kept, one for use in the class room, in which rapid notes may be written and the recipes jotted down; another for home work, in which a complete record of work done in the school room is kept. The English and spelling in this book are corrected, and it is useful to show the teacher what the pupils learn from each lesson and is valuable for the pupils later.

A sheet of paper is kept posted on the bulletin board in the cooking-room, on which a record is kept of what dishes the pupils cook at home. This is a source of information for the teacher and encourages the pupils to do work at home.

The children work individually, almost entirely, since only in this way is a child wholly responsible for a finished piece of work. Occasionally, however, they work in groups, on a large project, as in the baked fish lesson where some make the stuffing, others the sauce, and still others clean and dress the fish; or in the ice cream lesson where some freeze the cream and others make the cake.

L. B. W.

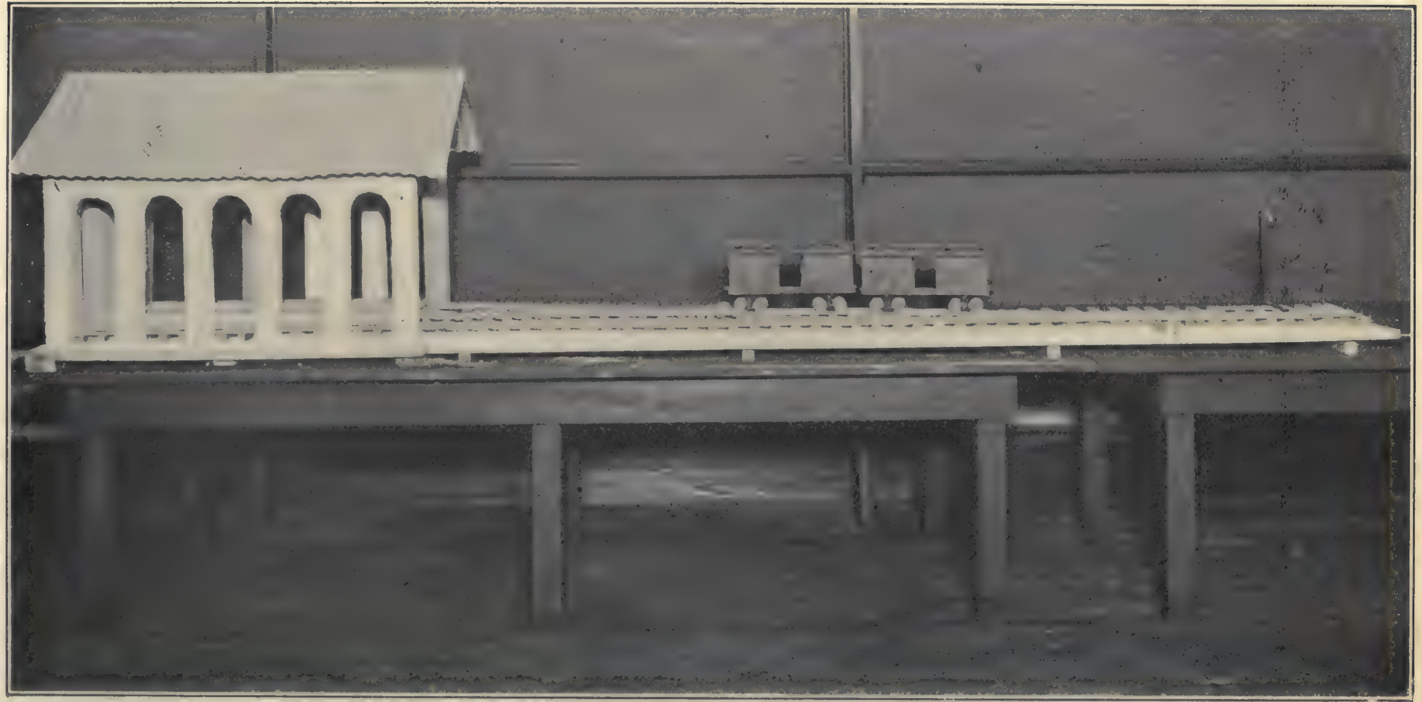
MANUAL TRAINING (Boys)

GRADE VII

Modern Transportation is the industrial study dealt with in the seventh grade, and it is treated much in the same way as is the factory in the sixth grade. The railroad is the main topic, and is considered from the standpoint of construction, operation, and social importance. The work is organized largely on a co-operative or group basis, and gives a fine stimulus for the exercise of initiative and executive ability.

During the past year the class made a working model of a freight equipment. A freight house was constructed, tracks and switches were laid, platforms put in, and cars built. Two sections, one of twenty boys and the other of twenty-four, worked on the project. The first item taken up was the freight depot. The boys described different types of freight houses and railroad depots that they had observed, and discussed the suitableness of various building materials. Concrete was suggested and the problem of building a model freight house of this material was discussed. The boys knew that the concrete needed some sort of a mould to "set" in, for they had watched the construction of concrete buildings in the neighborhood, and they were able to describe the process. It was decided to make the mould of boards, ram the concrete into it, and then remove the boards after the cement had hardened.

The form of building was discussed, blackboard sketches were made from suggestions, and a plan was decided on that would accommodate three tracks and two platforms, the walls to have high arches for light and for convenience in handling freight. To form the arches in the mould, it was proposed to use solid blocks of wood the thickness of the wall, and the width of the arch, rounded on one end. A drawing of a plan and elevation was put on the blackboard, a suitable base made of boards was arranged on saw horses, and groups were assigned to the different parts of the work. One group rounded the arch block, another



Freight Equipment. (See page 495).

laid out the wall lines on the base with chalk and line, another sawed out and nailed the boards for the mould, and another constructed the platforms. When the mould was ready, stiffening rods were wired in as was suggested by illustrations of concrete construction in a trade journal. The concrete was mixed (one part of cement, three of sand, and five of stone) and rammed into the mould. The next day the boards and arch blocks were taken out and the walls of the freight house were ready.

The roof of the depot was quite an important feature of the project. Iron construction was decided on. Experiments and demonstrations were made to show the importance of the shape of a beam in adapting it to its function in a structure. A straight strip of sheet iron was supported edgewise from its ends, and a weight was hung from the center. It was found that the strip doubled or "buckled" over sideways. A bend or crease lengthwise in a strip to make an "L" cross section showed greater capacity in supporting a weight, and a "channel iron" proved better still. A double channel or "I" beam was accepted as the best form for the roof trusses. Builders hand books with illustrations of steel trusses were shown to suggest a suitable type of truss, and the names of the parts were pointed out. Demonstrations were made to show the function of the different parts of a truss, and the distinction between a compression member and a tension member. One boy was elected as drafts-

Roof Truss.

man to draw in detail the roof truss from which the others could work. The class was divided into groups, one to bend the channel beams, one to rivet them, one to make the tie rods and plates, and one to assemble the parts into complete trusses. When these trusses were finished they were placed on the building, and a roof of corrugated iron put on.

The track was the next important part taken up. The idea of running a railroad through a new section of country was suggested, and the class was asked to consider what would have to be done first. The purpose of surveys, right of way, and percentages of grade were discussed, and the laying out of curves was explained. Some of the boys had seen rolling mills in operation, and described how the rails were rolled out. Sketches of the rollers were made on the blackboard, and the boys were given the problem of how and of what material they could make their rails. They could work out no way of rolling a metal, but suggested that the rails be cast of lead in moulds, as a substitute. How to make these moulds was the next problem. Sand, plaster, putty, and wood, were suggested as materials. Wood was chosen, because a groove could be planed in two pieces which then could be put together. Much time and thought was given to finding a way to make the mould perfectly smooth and proof against burning. Graphite was suggested, tried, and found very satisfactory. Each boy made a mould, cast some pieces of track, and when they were finished laid them in place. A roadbed with wooden ties was prepared

Rail, Moulds, and Wheels.

Coal Cars.

Signal.

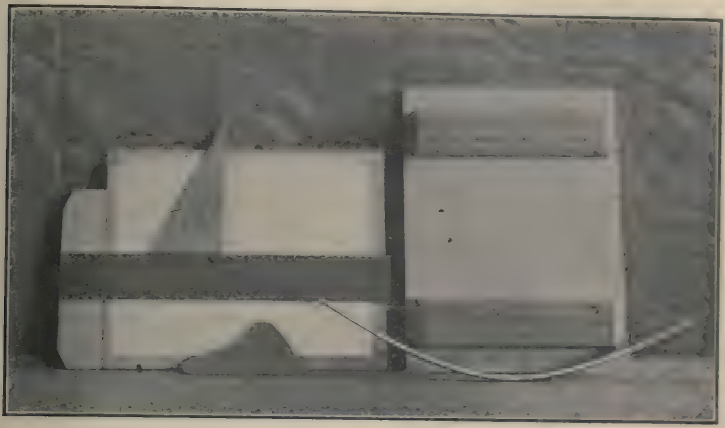
while the casting was going on. One boy was elected as draftsman to draw the details of the curves and switches. From this drawing, the lines of the entire track system were laid out on the base by one squad, another placed and fastened the ties, and the roadbed was ready for the rails. The switches and signals were given to a special group. The tracks were first laid in the freight house, then the curves and switches outside, and lastly the signals were put in.

A car-building squad for the purpose of making axles, casting wheels, riveting trucks, and building the bodies was formed of boys who had completed their track work. As each part was taken up, the mechanical problems were discussed by the entire class. One typical problem was the casting of wheels on the axles. It was proposed that wood moulds be made, and as the shape was circular that bits be used to bore out the holes. Three sizes of bits were used, first a large one, 1¼″, bored ⅛″ deep for the flange, then a 1″, bored ⅜″ deeper in the same center for the tread, and last a ¼″ bored through for the axle to be inserted. A cover was made with a ¼″ hole for the axle and a vent and a gate hole. This cover was split through the center of the ¼″ hole so that it could be removed after casting the two wheels on an axle. The mould was graphited, and the axles were notched with a file where the wheels were to be located. All of this process was worked out as a class problem with experiment and discussion. The wheels were trued up on a turning lathe, and the questions of differential and bevel of the tread were explained.

Signals were designed by individual boys. Those who were interested in the subject made drawings of proposed systems as part of their home work. Various ideas were suggested, submitted to the class, and the most practical one, an electric semaphore, was selected. The designer made the magnet, the signal, and wired the track himself.

These large group projects are usually taken up in this grade after some strictly individual work has been done. It is difficult to hold to high standards of technique when a variety of operations are being carried on at one time, but, if some individual work precedes the group work, there is opportunity for the teacher to establish the desired standards, and also to gain a knowledge of the ability of the individual boys.

During the present year a study of boat construction preceded that of the railroad, and drawing boards, "T" squares and triangles with which to draw the boat plans were first made. In making the drawing board special emphasis was put on the necessity of having a true level surface and straight edges. The "T" square was accurately produced by using a "shoot board" to plane the edges of the head and blade. The idea of using a shoot board was suggested by the class after a discussion of various devices proposed by the boys. The necessity of accuracy in these tools was the idea emphasized, and the thought of the class was concentrated on methods to secure such a result. In making the triangle, another device was worked out by the boys to get the 60°–30° angles true and the edges straight.



Drawing Set.

The boys might have purchased their outfits, and proceeded at once to the boat designing, but here were valuable opportunities that could not be thrown away for introducing several tool processes and a number of geometric ideas, and for developing in the boys' minds a better idea of the meaning of accuracy.

In drawing the individual boats, the boys used designs published in periodicals devoted to the subject. These printed designs were used only as suggestions, and were modified according to the boy's judgment to accommodate a dry battery and small motor for motive power. As to displacement, balance, finding the water line, center of resistance, much was learned as the construction progressed, but most from experimenting with the boats after they were built. The form of construction adopted was the "bread and butter" plan, and the lines of the joints between the layers were used as construction lines in drawing the sections of the boat. After the design was drawn, paper templets of each section were cut out, the board sections or layers were sawn out, and the sections laid up, glued, and nailed. A propeller was cast in lead directly on a shaft. This shaft was run in a small tube that was inserted tightly in the stern, and pitched so that the upper end was above the water line. The motor shaft was geared with a clock wheel and trundle to the propeller shaft.

Considering the whole subject of transportation from merely a hand-training point of view, the processes worked out are more varied than those found in the usual set course of useful models given to the seventh grade, and the number of materials used is greater but, far more important than this, is the superior fund of ideas that this work introduces. A serious study is made of one of the greatest agencies of modern civilization, and this constructive study gives the boy an intelligent interest in it that could not be attained by reading or observation. The boys' interest in these subjects at the age of an average seventh grade pupil is keen. He dislikes to have the period for shopwork close and begs for permission to work overtime. Besides the variety in materials and processes, and the rich field of facts, there is the opportunity and incentive for individual initiative and ingenuity. The group work, when organized on a basis typical of the constructive industries, affords opportunities for placing responsibilities on the boy, and compels him to stand on his own feet.

As a subject related to previous work, and to that scheduled for the next higher grade, transportation has a very fitting significance. The sixth grade deals with the factory, the seventh with transportation, and the eighth grade, or first year high school, takes up communication, including printing, typesetting, etching, engraving and, if time allows, the telephone and telegraph. This arrangement permits the study during these three years of some fundamental aspects of modern industry, and opens to the pupil a broad field of manual and intellectual experience.

ADDITIONAL PROJECTS.

In addition to the regular work, classroom and school needs occasionally arise that suggest suitable projects for the boys to work out after school hours, or during study periods. If a group of boys are interested in making something to be used in their classroom, and the project is worth their while, they are given opportunity to work on it.

Hymn Board.

Shelves for books and flowers, bulletin boards, and benches form part of a list of additional projects that have been undertaken. The hymn board used in the morning exercises was planned and made by a small group in the seventh grade. The bank used in connection with seventh grade arithmetic was built by one section of that grade. It was taken up as a class project, each boy submitting his idea for the bank in a drawing. Groups of from four to ten boys sawed out the stock from boards, dressed the pieces to the dimensions on the drawing, and assembled them. The "bank" was then stained and varnished. Time to do this work was found during study periods and after school hours.

E. G. McN.

FRENCH

GRADE VII

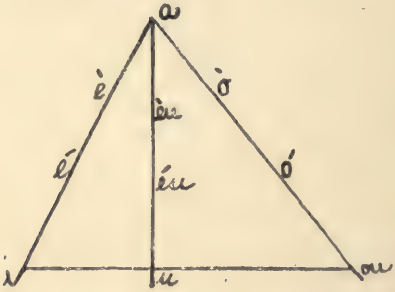
The study of the French language offers to American students, in the articulation of the foreign sounds, difficulties which may be mastered the more easily if the child takes up the study of French while the organs of speech are still adaptable and pliable.

In the Horace Mann School the study of French is introduced in the seventh grade and is continued throughout the high school, thus forming a six years' course. In the first year the pupils have four lessons per week of thirty minutes each, in the following years they have three lessons per week of forty minutes each. The short time allowed each week to French is balanced by the number of years given to the course, and the pupils who pursue the entire course should have a fair knowledge of spoken and written French. The first year lays the basis of the whole edifice—the training of the ear, a good pronunciation, the practice of the simpler forms of conversation, and the first principles of spelling and grammar.

The training of the ear and of the vocal organs is all important at the start. It is for this reason that the instruction is given without a book for the first three or four weeks, the blackboard advantageously taking the place of a text book. At the beginning reading offers two dangers: first, the child forms the habit of depending more on his eyes than on his ears to memorize a sentence, which leads to the remark too often justified, "I can't pronounce it, but I know how to spell it." Secondly, the pupil, as he reads, attacks each syllable of the word separately. In oral work the syllable is not detached from the rest of the word, the word itself is not detached from the sentence which remains a whole. To memorize a spoken sentence is the step towards this ideal—the expression of thought directly in French without the preliminary translation from English into French. Later when the form of the spoken word is thoroughly familiar to the pupil, a few minutes are sufficient for him to master the written form.

From the age of eleven to thirteen the faculty of imitation is very active, and exercises for the pronunciation of the sounds take place simultaneously with the training of the ear. The difference in sound between the English and the French vowels is illustrated, and the French vowels practised. For this the following diagram is found useful:

These sounds are practised with the teacher individually or in groups in the following order: At first a è é i, then a ò ó ou, then i, u ou, at last a èu éu u. This diagram helps to fix the sounds in the memory. The pupils are referred to it later each time they mispronounce a vowel sound. Phonetic signs are not used.



Pupils of this age generally have no trouble in imitating a sound after the teacher. In case they do have difficulty, the teacher explains the position of the tongue and lips, and the use of the breath. For the vowel *u*, for instance, the pupil places his tongue and teeth as for an *i*, then protrudes the lips as for whistling. This gives the sound of *u* perfectly. For the nasal sounds, when the child clearly understands that the vowel sound alone is given, he finds no difficulty in imitating it.

The lessons are given with the help of the Hölzel pictures. The words used by the teacher are descriptive of objects in the picture or the classroom, the teacher pointing to each thing named. Such words are chosen as introduce the sounds to be studied. Not until the pupil can point to the objects as the teacher names them in French, thus showing that his ear is sufficiently trained, is he allowed to repeat the French word and the sounds which compose it. The words are then written on the blackboard. The examples are all given in French, no English equivalent being suggested. From the start the French sounds are given to the letters. Later, when the pupils pronounce short sentences, their attention is called to the "liaison" and to the different aspects of a word beginning with a vowel: *une abeille, l'abeille, cette abeille.*

The pupil is soon able to understand a number of short sentences—he translates these into English, or points to the objects named by the teacher. He then learns to repeat these sentences and finally he uses them in answer to questions. At first the questions suggest the answers: *Est-ce-que l'abeille vole? Oui l'abeille vole. Est-ce que l'abeille est un insecte? Oui l'abeille est un insecte.* Then more difficult forms are used: *Qu 'est-ce que l'abeille fait?* Elle vole. Nommez un insecte. L'abeille.

For each addition to his vocabulary the pupil passes through these three phases: 1st, training of the ear; 2nd, repetition of the French sentence or words; 3d, utilization of the material thus acquired in questions and answers. For example, the teacher shows the picture and pronounces these sentences: *La mère travaille dans le jardin et les enfants jouent devant la maison.* The pupils, already familiar with the words *mère*, *enfants*, *jardin*, *maison*, need but little help to translate this sentence correctly. If it is necessary the teacher translates the words *travaille* and *jouent.* Then the order of the words is transposed and other words introduced. *Les enfants travaillent dans la maison. Les élèves jouent devant l'ècole. La mère et les enfants jouent*, etc. When the ear of the pupil is sufficiently trained, he repeats the words separately or in groups with the teacher. Then come the questions: *Est-ce que la mère travaille dans le jardin. Qui est-ce que travaille dans le jardin? Où est-ce que la mère travaille?* The new sounds are also written on the blackboard.

The vocabulary is increased very slowly, the repetition of the same words, of the same sentence and question forms, is necessary so that the answers may come readily without translation. The forms *est-ce que, qui est-ce que, qu' est-ce que, où, y a-t-il* are sufficient to form almost all the questions on the first picture. In all this early work, absolute accuracy is required in the translation as well as in the answers given. The pupil is not allowed to translate *un chien* by "the dog" because the general sense of the sentence allows such a substitution.

Up to this time no book is used and all the material acquired has been based on the first Hölzel picture. This preparatory work takes from four to six weeks. The book used in the first year is the first part of the *Leçoñs de Français* by S. Alge and W. Shipmann. St. Gall, librairie Feir. This work is in two volumes. The first part is based on the Hölzel pictures. The four pictures reduced in size are in each volume, but for the 'ensemble' drill in classes of twenty-five to thirty-five pupils, the large edition of these pictures to hang on the wall, is very useful. From the first pages the pupil finds himself in familiar surroundings. He meets only words that he knows, and has little trouble to master their written form. With a little practice he will read them fluently, without spelling syllabl after syllable. If he forgets the pronunciation of a word, he is referred to the vowel diagram or to a more familiar word. If it is before the word *moulin* that he stops, he is referred to the word *jardin* of the first page; if it is the word *frère* he returns to *père*, *mère*, or the triangle a è é i. The new is thus always grafted to the old which the pupil has already mastered.

In this first year there is no sight reading, the test being prepared in class orally in advance. Before using the book certain elements of grammar are presented to the pupil, but in no case are the rules given by the teacher. The inductive method is used. The pupil himself evolves the rules from his little store of sentences. A bright child will be from the start impressed by the different forms of the article, le père, la mère, l'abeille, les enfants, etc. The zeal and interest that the children show in trying to find the rules is a compensation for the few minutes thus employed, and the attention of the pupil who has discovered the reason of *l'* will not be caught sleeping before the mysteries of *ce* and *cet*, *beau* and *bel*, *vieux* and *vieil*.

With the reading begins the systematic study of grammar, but practice and observation still precede the rule. It is necessary for the pupil to study the principles of grammar which govern the French language, but rules are brought in only when he can base them on facts that he knows and finds in his reading and oral material. The memorizing of a rule is based on the previous memorizing of sentences in which this rule is applied. After the pupil has become familiar with the sentences, *le papier est blanc*, *la neige est blanche aussi*, *ce garçon* *s'appelle Henri, cette fille s'appelle Marie, ces enfants s'appelent Marie et Henri*, etc., these same sentences are referred to when the teacher needs to bring in the rules that they illustrate. They are repeated orally and written on the blackboard and the pupil is asked to find the different forms and to tell when they are used. As he is already accustomed to different forms for different genders and numbers he will have no trouble in doing this. The book follows the same system. The reading matter is carefully chosen to introduce new grammatical forms, but rules are not given except in the form of examples. To supplement this and help the pupil's memory, the rules, when it is possible, are condensed in diagrams written on the blackboard and copied by the pupil in a note-book, thus:

	Mas.	*Fem.*
Sing.	blanc	blanche
Plur.	blancs	blanches

	Mas.	*Fem.*
Sing.	*ce*	*cette*
before a vowel	*cet*	*cette*
Plur.	*ces*	

The pupils memorize these diagrams.

The grammar study in the first year includes articles, the plural and feminine forms of adjectives, the plural of nouns; the demonstrative, possessive, interrogative, and numeral adjectives; the personal, possessive, interrogative, and demonstrative pronouns; the comparison of adjectives; the regular form of verbs in the present, perfect, and future tense, and some common irregular verbs.

As has been emphasized above, most of the work is oral and done in class under the supervision of the teacher, and with book closed. The first and larger part of each lesson is devoted to oral work without books. Much of this is review of the material already required for it is necessary to repeat the same sentences and the same forms of questions again and again until they are absolutely familiar to the pupil. Then comes the preparation of the new material, following the order given above; training of the ear, drill by repetition, questions and answers. The text of this oral material is not chosen at random. It prepares in advance the vocabulary of the book and fixes some grammatical form. Thus the sentences: *Il y a de la neige sur la montagne, de l'eau dans le ruisseau, du feu dans la cuisine* prepare for the study of the partitive; *L'enfant que la grand' mère porte s'appelle Paul, l'enfant qui regarde les hirondelles s'appelle Henri*, prepare for the study of the relative, both as subject and object. In this way the text of the book is anticipated, the oral forms of the words presented in sentences being assimilated several days before the pupils find them in the book.

The second part of the lesson is devoted to reading and grammar. The short time allowed obliges the written work to be left entirely for home work, with the exception of examples and recitations. The written home work is based on the text of the book. It consists of questions to answer, sentences to put in the negative, giving the opposite of certain words, changing the person or tense of the verbs in the text, replacing the nouns by pronouns, etc.

Without absolutely precluding the use of English in class, French is always used by the teacher for orders or explanations, even if in the beginning he must translate some words to help the pupil to understand. All grammatical expressions are given in French. At the end of a few months the pupils are able to understand all the terms necessary for the conduct of the class.

M. K. B.

GERMAN

GRADE VII

The introduction of German into the seventh year of the elementary school makes it possible, if the work is continued through the five high school years, to build up a more thorough course in a foreign language than is generally given before the college period. In a discussion of language teaching we are apt to give much consideration to the relative merits of the methods that emphasize reading or speaking. We argue sometimes that our geographically isolated position does not seem to make a speaking knowledge of a foreign language of the first importance, and that the limited time which is given to the subject in the secondary school period can be spent to better advantage if the stress is laid upon the acquisition of a reading knowledge of the language. Germany, France, Switzerland, Sweden and Denmark have taken the lead in demanding that the immediate aim of foreign language teaching should be to enable the learner to understand speech in the foreign idiom and to use it as a direct instrument of thought. Their methods are the natural results of this aim. Obviously the demand for a speaking knowledge, because language is essentially and primarily speech, calls for a method that gives prominence to oral exercises. An examination of the lesson programs of these countries will show that a longer time is given to the study of modern languages than in our secondary schools. In a *höhere Töchterschule*, in Germany, for instance, the last six years of a ten-year course include French, and English is taken up in the seventh year and carried on through the tenth. Students of these reform methods abroad are agreed that the results compensate for the time and effort put into the teaching. May we not, then, in a course of six years devoted to German approximate these larger aims and correspondingly more thorough methods, and try to build up step by step a facility not only to understand and read, but to speak the foreign language?

If our aim is to teach the pupil to speak German, the spoken idiom will be the basis of all instruction and oral exercises in the form of question and answer will form the backbone of the course. But it is not possible at the beginning to exclude the mother tongue entirely. Explanations involving grammatical difficulties will have to be given in English. Our aim, however, obliges us to introduce systematically as much German as the pupils can be taught to understand, and to use the mother tongue as a means of interpretation more rarely as the class advances. The meaning of strange words and phrases may be suggested in a number of ways without translation. For example, *Ich bin gross*, *klein; Ich arbeite*, *singe*, *spiele*, may be explained by gestures or by carrying out the action indicated by the verb. Pictures, too, are a valuable means of connecting ideas with the objects or actions they represent. And as the vocabulary of the class increases, paraphrasing can be made to reveal the sense of a difficult word or construction. By using the foreign language in the class room, by avoiding the English equivalent wherever it can be done without loss of time, by stimulating the pupils through a series of well graded exercises to use German in asking as well as answering questions, we shall aim in this course to develop gradually and thoroughly an oral and written command of the foreign language.

The conditions for such work in our school are from the viewpoint of numbers favorable. The two classes contain respectively twenty-two and thirteen pupils whose average age lies between twelve and thirteen years. Four periods of thirty minutes each are given to German each week. Perhaps the only drawback on the part of the class is their scant formal knowledge of English grammar.

In order to focus the attention of the class upon one thing as often as possible the first four weeks of the course this year were spent in building up a working vocabulary of the objects in the class room. No text-books were used. It is a period when the children learn to interpret the new sounds and are led to overcome hesitancy in their reproduction. In the first lesson the chalk was held up with the words, *die Kreide*. That was repeated slowly and distinctly. And then, with gestures to indicate what was said, the sentence, *Das ist die Kreide*, was given. *Was ist das? Das ist die Kreide.* The question asked and answered by the teacher was easily understood and then we were ready for class work. The children answered the question individually and together. Soon they could not only reply, *Das ist das Bild*, *das Buch*, *das Mädchen*, *der Stuhl*, *der Tisch*, *der Knabe*, *die Tinte*, *die Tafel*, but they could also ask each other the names of the various objects they had learned. In every lesson exercises in hearing and oral reproduction were combined with writing and reading of what was written.

As the words and sentences were understood and repeated by the class, they were written on the board and made the basis of short oral drills in spelling. Each new word was spelled first by the teacher and then by the class until the children were familiar with the alphabet. Such oral spelling, taken up in different ways, was a daily exercise. It kept the class on the alert for mistakes and tended to develop care and increasing accuracy in the written work.

The prominence given to a correct enunciation was one of the chief features of the first months of the work. With each word that presented a new sound, a careful drill in pronunciation was given. The children were trained at first to notice differences in the sound values of vowels and the place and manner of their production. They learned to distinguish between the English word "rose" with the tendency of the vowel to become a dipththong, and the German *die Rose* with its clearer and purer vowel. Any sound in a word that caused any difficulty was isolated and practised in class until it was correctly given. If, as it happened occasionally, it was impossible for a pupil to give the correct reproduction, another, quicker of ear and of imitation, was permitted to teach it before the next lesson. It was always interesting to notice in such a case how anxiously the young teacher followed the efforts of his charge. As the stock of words increased, exercises in grouping words containing the same sounds together were undertaken from time to time. Only the guttural R caused any real difficulty. After the customary attempts at reproduction by each pupil, a few volunteered to give the sound, but their very carefully trilled R's were heard to be different from the sound produced by the vibration of the uvula. The children were quite satisfied to know that the trilled R was equally acceptable and correct. In such an elementary course in phonetics as this, all technical terms were avoided. Our chief aim was to impress upon the class that they were not speaking German unless they reproduced carefully and exactly the correct German sounds. Good habits of articulation, once started, must be well watched throughout the work. It will not do to relax one's care after the first few months, for the children are very ready to fall back upon easier methods if they are permitted to do so. It would not be amiss to stop at any time during the instruction to give the necessary drill in pronunciation, and the children should be encouraged to take up their share of the work in criticising each other's mistakes.

To pass to the question of teaching vocabulary—whenever a new word is first met, we connect it at once in as many ways as possible with the old material. For instance, the adjective *fleissig* was applied to all the people in the Hölzel *Frühlingsbild.* Questions of the teacher brought the answers: *Anna ist fleissig. Sie arbeitet. Karl ist nicht fleissig. Er spielt. Die Mutter und der Vater sind auch fleissig. Die Grossmutter und der Grossvater arbeiten. Sie sind fleissig.* If this is done and every child in the class has been called upon to use the new word himself, if the oral impression is supplemented by the visual through board work, it is safe to assume that it will not be one of a number of words to be learned by heart at home, but rather that it has become the mental property of the child before he enters it in its appropriate list in the exercise book.

If such oral work is not to grow monotonous and lead to half-hearted, listless answers on the part of the few, quick reaction to the questions is necessary. Every pupil must be made to feel that it will be his turn to ask or answer the next question, or write the given sentence on the board. Chorus work, which is a great time-saver besides helping to launch the more timid ones upon efforts made alone, often imparts life to a lesson and makes each pupil feel that he is contributing his share to the work. Any device that will stimulate interest and enthusiasm and make the class feel that they are working together is permissible. The children go for example before the picture they are studying and repeat the conversation of the last ten minutes until they forfeit the right to go on through a mistake discovered by the other members of the class. Or, a pupil may ask a question and choose some member of the class to answer it. Anything which suggests a game to them is apt to be entered into heartily. The verb *sein*, which was taught in the following manner after the class knew about twenty adjectives, kept every child busy either writing on the board or answering.

The teacher begins	1. *Ich bin* gross.
Then, pointing to a pupil,	2. Tom, du bist nicht gross. *Du bist* klein.
Wie bist du nicht, Tom?	Ich bin nicht gross.
Wie bist du? (same question is put rapidly to various other pupils)	
Heinrich, sage Tom, wie er ist.	Tom, du bist klein.
Klasse, ist er klug?	3. Ja, *er ist* klug.
Gretchen, ist Adelaide aufmerksam?	3. " *sie ist* aufmerksam.
Ist das Kind gut? (pointing to picture)	3. " *es ist* gut.
Klasse, sind wir fleissig?	1. " *wir sind* fleissig.
Kenneth und Vincent, seid ihr fleissig?	Ja, *wir sind* fleissig.
Teacher asks them to stand and speaks to them, Alice, sage K. und V. wie sie sind.	2. Gut, *ihr seid* fleissig. K. und V., ihr seid fleissig
Gretchen, sage es Tom und Alice.	T. und A. ihr seid fleissig.
Sind sie (pointing to class) gut?	3. Ja, *sie sind* gut.
Wie sind diese Kinder?	Sie sind gut.

Only the leading questions are suggested in this short outline. Each one calling for a definite form is quickly put to a number of children and the adjectives are varied to suit individual cases. The questions of the teacher alternate with those of the pupils. During this time the verb is written on the board sentence after sentence until the present tense is complete. When the class has acquired some familiarity with the application of these verb forms, several of the best pupils may be called upon to come before the class and give the whole tense. They indicate by gestures whether they are speaking, speaking to, or speaking of a person, and whether they mean one or more than one. This exercise necessitates the teaching of person and number, entirely new work in grammar for the class. As soon as all the children know these forms, the drill grows more rapid and expressions like, *Ich bin acht Jahre alt*, *Ich bin noch nicht gross*, *Ich bin nicht mehr jung*, are at once conjugated. No one will dispute that the pupil gains by this means a better understanding of and a surer grasp upon the use of these forms than if he had been furnished at the outset with the paradigm for conjugation.

The book best adapted to the kind of oral work we do is Newson's *First German Book* of the Alge-Rippman series. These books are built upon the Hölzel pictures for the purpose of developing connected work in conversation and written exercises. They develop slowly and progressively the rules of grammar which serve as a means of systematizing the knowledge that is gained. As a result of our four weeks' work based upon object showing, we were able to pass over the first few lessons of the text-book quite easily. Our talks were now upon the first of the series of pictures, the *Frühlingsbild*. The old material was worked in wherever possible and an effort was made to keep all the vocabulary of the class in use. The picture was of much greater interest to the children than one would have imagined. It seemed to stimulate them and did much to make our work more spontaneous and natural. It was of great service too in facilitating the acquisition of a vocabulary. Whenever there was any hesitancy in the recollection of a word a pointing to the object in the picture in connection with which it was learned, served generally to recall it.

The use of verbs like *haben*, *singen*, *spielen*, *arbeiten*, *schwimmen*, *springen*, *fliegen*, at first only in the third person singular and plural, called for the plural form of nouns. By dividing these into four classes: (1) those that remain unchanged in the plural or simply modify the vowel (2) those that add *e*, or modify the vowel and add *e* (3) those that modify the vowel and add *er*, (4) those that add *n* or *en*, the way is easily prepared for the weak and the strong declensions. During this time preliminary exercises frequently consisted in asking the children to give the singular and plural forms of nouns as they pointed to the objects in the picture; or nouns were named by the teacher and the whole class would say: *Einzahl, das Buch, Mehrzahl, die Bücher.* Questions like: *Was tut der Vogel? Was tun die Vögel? Was tun die Ente? Was tun die Enten?* brought the answers:

Einzahl	Mehrzahl
Der Vogel flieg *t*	Die Vögel flieg *en*
Die Ente schwimm *t*.	Die Ente *n* schwimm *en*.

These sentences written on the board in this form served to visualize the changes which the nouns and verbs undergo. As soon as the class understood what was wanted they were ready to add materially to the stock of examples. As we slowly developed the declension of nouns, case by case, we added to the use of the definite and indefinite articles, the interrogative, demonstrative, and possessive adjectives. The aim, that the pupils acquire a habit in the use of the correct forms, rather than let the recollection of the rule lead to its faltering application, was constantly kept in mind. The pupils' efforts to use as many of the new forms as possible were always encouraged by the teacher. This gave them increased confidence in their power to use the new language and helped to give life to the class work. After the development of the nominative and accusative singular, the genitive was taught in the following manner. The pupils learned by means of the picture,

Die Bäume des Waldes sind Tannen.
Der Schnee *des Berges* ist weiss.
Die Blumen *des Gartens* sind schön.
Das Fenster *des Hauses* ist offen.
Der Name *des Kindes* ist Anna.
Der Name *des Mädchens* ist Marie.
Die Farbe *des Grases* ist grün.

It was called to their attention through questioning that all the nouns used with *des* are masculine and neuter. This led them to deduce the rule for the formation of the genitive of masculine and neuter nouns. After the children have been called upon to give more examples the teacher can vary the exercises by means of such questions as: *Welche Bäume sind Tannen? Welche Blumen sind schön? Ist die Tür des Hauses zu? Sind die Blüten des Baumes rot ?* Good examples have meanwhile been written on the board by various pupils. All have contributed to the work, for in answer to the command, *Noch einmal, die ganze Klasse*, all participated. The class is now ready for a short written exercise, which may take the form of a number of sentences written from memory, or the answering of questions put by the teacher, or of a simple dictation. Thus, analysis and induction form the basis of grammatical instruction.

The question of the teacher leads to the independent observation of the rule on the part of the pupil. However, the primary object of such grammar teaching is not that the pupils shall be able to recollect rules and exceptions, but rather that he shall at any moment be able to use the right inflection or construction without conscious effort. Paradigm work in declension was attempted only after the pupils had gained some fluency in the use of the cases. In this way the children acquire the right attitude towards the language: it is to be talked rather than talked about in the rules and exceptions of grammar.

During the period of declension-teaching, the home work was largely upon the formation of sentences involving the use of each single case as it was developed. To give facility in the use of the genitive of the possessive pronoun, sentences like these were given:

Hier ist das Buch meines Freundes.
Dort ist das Bild meiner Freundin.
Der Garten meines Onkels ist nicht gross.
Ich habe das Buch meines Vaters
Ich sehe das Haus meiner Tante.

The class then wrote out all the forms, each time making a complete sentence in this manner:

Hier ist das Buch meines Freundes.
Hier ist das Buch deines Freundes etc.

The nouns may be varied as,

Ich habe die Tinte meiner Lehrerin.
Du hast das Heft deines Bruders.

Sometimes questions calling for the use of the different cases were answered, or blanks for personal and inflectional endings were filled in. Later on, paradigm declensions were called for, with a sentence to illustrate the use of each case. The home work must of course be closely connected with the work in the classroom. Careful preparation and constant drill there must have preceded the attempt to do the work at home. Children like to do what they feel they can do. Care and accuracy are encouraged by giving them work they are capable of doing well. And finally, it is important that the home assignment be as definitely stated as though it consisted of the next twenty sentences to translate.

During the first few months not much memory work was attempted. From time to time, however, work in conversation that could be used in a dialogue was memorized. Thus, for example, two boys represented Karl and Heinrich, and two or three girls Marie, Luise and Anna. Karl and Heinrich began, *Unser Onkel Hans ist auch euer Onkel*, and the sisters reply, *Ja, und unsere Tante ist auch euere Tante.* The brothers continue, *Unsere Eltern sind auch euere Eltern. Ihr habt wie wir einen Grossvater und eine Grossmutter* u.s.w. Or to give practice in the use of the polite form some of the children would be Herr and Frau Braun, while one or more of the others address them in this fashion: *Herr Braun*, or *Frau Braun*, or *Herr und Frau Braun, Sie haben ein Haus und einen Garten. Sie haben Enten und Entchen. Ihre Kinder sind brav. Sie sind glücklich*." The children were not too old to enjoy this form of "make-believe." They liked to represent the different people in the picture in conversation and at times suggested changes that added materially to the interest of these dialogues. As the class progressed proverbs and a few selections from the poetry in the text-book were committed to memory. Shortly before Christmas, the class learned to recite and sing *O Tannenbaum*. A small, wooden Christmas tree, very evidently made-in-Germany, was the subject of an introductory conversation lesson to give the vocabulary of the poem. Although they had been told that it was not necessary to learn the poem unless they liked it well enough to do so the whole class with two exceptions knew the first verse before we started to sing it. To impart the right atmosphere at the time, a short account in English of how Christmas is spent in Germany was given.

From the beginning of the course the class-room language of the teacher was used as a means of giving added practice in hearing and using German and of increasing the vocabulary of the class. To the commands: *Gehe an die Tafel*, *Höre zu*, *Setze dich*, *Passe auf*, *Sprecht leise*, *Öffnet die Hefte*, *Schliesst die Bücher*, *Legt die Federn nieder*, the children were taught to reply in the first person singular or plural in answer to the question. *Was tust du? Was tut ihr?* Even though the class cannot always answer in German, it is obvious that asking the questions in that language will tend towards a growing familiarity with the spoken word and help to create a habit for the use of the correct forms. Children learn to understand such questions as Warum sagen wir—Ich habe ein*en* Hund, aber, Ich habe ein Buch? or, Warum haben wir hier in allen Fällen der Mehrzahl die Endungen? if the effort in that direction is made slowly and systematically by the teacher. In this manner we pave the way for the gradual exclusion of the mother tongue during the language lesson.

In order to give each pupil the necessary practice in hearing, speaking, writing, and reading the new forms, progress is necessarily very slow. By the end of the year the pupils have studied only the Frühlings and Sommerbild, work covering twenty-nine lessons of the text-book and involving the following grammatical knowledge: declension of nouns, conjugation of the present tense and imperative mode of the various types of verbs, governance of the common prepositions, the use of the possessive and personal pronouns, the predicative and attributative use of the adjectives, a practical acquaintance with cardinals and ordinals, and the use of the most common adverbs. Their knowledge of word order is limited to that in principal propositions and their vocabulary amounts to about five hundred words. And yet, such a method has its apparent advantages. The self-activity of the pupil is stimulated to an appreciable degree. He finds his rules through his own strength and independent reflection and forms his own examples. He gains a gradual but thorough acquaintance with and a feeling for forms. From day to day he is taught to apply what he has learned in a practical way in the school-room conversation. No attempt is made to teach all the grammar in one or two years. That is perhaps the greatest advantage of a course which permits the pursuit of such methods. If the pupil receives a thorough grounding in practice combined with theory through the use of a carefully graded series of books, it will insure on his part such a knowledge of the language as will induce him to go on with the study by himself if he is obliged to drop it in school after three or four years.

F. J. H.

SOCIAL ACTIVITIES OF THE HORACE MANN ELEMENTARY SCHOOL

One of the most striking features of the modern school is its character as a social organism. Observers are generally more conscious of this in the lower grades where the kindergarten spirit of social service is often strongly felt, but every year more of the kindergarten spirit is permeating the once stagnant grammar grades and bringing an active spirit of co-operation into play. In the Horace Mann School this co-operative spirit is manifest from the chapel exercises in the morning until the final good-bye at noon. Our pupils, who come from all parts of the big city and outlying suburbs, meet on a very democratic ground and are keenly interested in one another. The early morning assembly brings nearly a thousand pupils of all ages, from the little folks of the primary grades to the dignified High School seniors, into the auditorium for general exercises and song. The value of these brief services in which all join, uniting the pupils in a common act of worship, cannot be overestimated and gives the keynote of unity for the day. On one morning in the week the elementary grades have the auditorium to themselves for opening exercises and these are then given a more social character. Each week some one grade has charge of the program. This grade selects the hymns and Bible readings and prepares a brief entertainment of recitations and music. The eager pride and concern of the class entertaining is met by an equally hearty interest and delight on the part of the listeners.

The daily class-room occupations are now begun, and in the upper grammar grades each recitation becomes an opportunity for co-operation as well as for self-help. In the arithmetic class we find, perhaps, a group of pupils who have measured with a triangle the height of the school building and one member of the group demonstrating to the class, by means of a blackboard diagram, the manner in which the result has been gained. The class listen earnestly and question keenly, attacking every misstatement or asking for further explanation, where a point is not understood. If the one explaining is nonplussed or unable to answer, some other one of the group takes up the work and helps out. Courtesy is insisted upon throughout and the questions, although keen and to the point, are expected to be given and answered in a spirit of good comradeship and a common desire to understand.

Another section of the same grade is in the adjoining room listening to a classmate's report of the cause of the California earthquake as explained by the scientists. Group work is again in evidence here, a committee of pupils having collected all possible maps and pictures bearing upon this and upon similar catastrophes and having arranged them as an effective illustration of the recitation. Other pupils add to the account given and question as to details. The history class is having a review lesson, using lantern slides to show pictures of famous battlefields, and as each picture is thrown upon the sheet a member of the class rises and gives to his classmates a brief statement of the events connected with the picture.

In the grammar class we make our own text-books after studying together sentence structure and the uses and definitions of parts of speech. Each pupil plans his own table of contents, deciding for himself on what to lay stress and what order of chapters best develops the subject. Then as each chapter is written, the manuscript is laid upon the classroom table for class comment and criticism. A spirit of hearty good-will and pride in the achievement of classmates is the result of these comparisons.

In other branches of English work the spirit of co-operation is enlisted wherever possible. The pupils often read and criticise one another's compositions, each pupil, in addition to marking errors as he sees them, being required to write some general comment on the paper, stating what good points he has noted in the work as a whole and what general faults. In the literature class a part of the lesson consists of oral reading by individual pupils, to which the others give active attention with the purpose of making some helpful criticism at the close of the hour, while the reader has, for his aim, to interest his hearers and make plain to them the author's meaning. Generally the pupil who reads takes his place in front of the class so as to direct his reading toward his classmates as well as to the teacher. This leads in time to a more natural tone of voice and less stiffness and formality in the recitation. At the beginning of the year, before the pupils are well acquainted, they are often a little embarrassed and dislike to come forward, but as all are expected to do the same and no notice is taken of the occasional shyness, it soon wears off and the pupils gain freedom from self-consciousness and express themselves quite naturally and with increasing confidence.

An immense power in the social life of our pupils is found in the art, gymnasium, and manual training classes. Here the work admits of a freer interchange of ideas, and an absence of restraint as they move freely about the room and consult, unrestrainedly, about the details of the work in a way not desirable in classroom recitations. Thus is given a possibility of social co-operation eagerly made use of by teachers and pupils. The boys in their wood work make a number of individual models and in addition always work out one group problem. This is one of the most valuable parts of the year's work, bringing into play a spirit of common interest in one project which makes for united effort. The project varies from year to year as the needs of the class, or its character, vary. One year the boys built a house, another year a railroad track and train of cars, and the present class have designed and are making a wooden railing with window openings for the bank in which the business transactions of the classroom are made. One year the boys designed and fashioned a hymn board for use in the school auditorium at morning chapel exercises, thus serving the entire school.

In the cooking class the girls combine in twos at their tables for washing dishes and other general purposes. Some article of food is prepared, each measuring and combining her own ingredients independently, but sharing the finished product with classmates and teachers.

Much of the gymnasium work for both boys and girls partakes of the same social character. In the team play of basket ball, the relay races, passing the ball, and other games the boys are given an invaluable opportunity for much friendly rivalry and co-operation. The girls' games of volley ball, basket ball, cat-and-mouse, and others offer a similar opportunity. Through the winter months an opportunity is given the boys of the upper grades for optional gymnasium work after the close of school each day.

The fifth, sixth, and seventh grades take turns in this afternoon work, going to the gymnasium for an hour's play at basket ball or other exercise. A special director is on hand to supervise the exercise and to teach the boys the rules of the games. The classroom teachers encourage the pupils to stay for this afternoon work and are often on hand to show their interest. A special schedule of games between classes and with other schools is made up, as soon as the boys get well into practice, and to these games the girls and other friends or parents are invited. Great enthusiasm is shown by the spectators at these contests and a healthy class spirit is engendered.

The art work in the studio, where opportunity is given to criticise and appreciate each other's work, brings the boys and girls together in a common aim. This year an additional stimulus toward united effort has come through an attempt by all the seventh-year pupils to design a cover for the school magazine. The designs were submitted to the art supervisor of Teachers College for judgment, and the best was selected and actually used as a cover for the Christmas number. The other designs that deserved praise were reproduced in a later number and a healthy interest in one another's work was thus aroused throughout the school.

Of general social activities outside the regular schoolroom work the school magazine is one of the foremost. Each grade of the school above the third appoints a sub-editor for the grade, whose duty it is to gather the best stories and poems and pictures from his classmates each month and submit these to the editorial board for selection, together with a brief report of his own on the monthly news of this grade.

Another means of promoting the social life of the school is found in the class play. In the upper grades each year one or more grades usually give jointly a dramatic performance at some time during the winter or spring. This play is often written by the pupils themselves with some help from their teachers, and is connected with the daily lessons. One year, for instance, the pupils of the sixth grade, after reading *Ivanhoe*, dramatized and produced several of the most striking parts of the story in some very effective scenes. The rehearsing of the play brought the boys and girls together in the afternoons and gave opportunity for social intercourse of a very pleasing nature, while the pupils discussed the characters and scenery and helped one another by practical suggestions as to costumes and stage properties. Another year the pupils of the fifth grade wrote a play called *The Minotaur*, based on their reading of Hawthorne's *Tanglewood Tales*, and produced some very remarkable scenery, even to a moon which rose at the proper time quite in the modern theatrical way. The pupils of the seventh grade changed Longfellow's *Courtship of Miles Standish* to dialogue form under the direction of their teacher and painted, under the art teacher's direction, some excellent scenery for the opening scene. And again in the history class, pupils of the same grade, after studying the Ante-Revolution period, produced a clever little one-act drama representing a dream in which the famous men of the period discuss the questions of "Taxation without Representation." In addition to these plays compiled in great part by the children, pupils of the seventh grade have read in class and afterward acted scenes from *Julius Cæsar* and *As You Like It*. To these plays not only the other members of the the class giving the play are invited, but where possible the pupils of the other grades. Some of those not acting find ways of helping as curtain raisers, ticket takers, scene shifters, or members of the orchestra, while others form an appreciative audience.

As the school year advances toward spring and our boys and girls can get out of doors, we have many little afternoon excursions which promote close acquaintance and good-fellowship. Groups of pupils with their teachers visit Central Park to study the birds, others go across the Hudson to forage the New Jersey woods for frogs' eggs and wild flowers. Sometimes a whole class visits some point of historic interest, as Washington's headquarters at Morristown, or Tarrytown and Sleepy Hollow.

Another spring celebration is the May festival, and this has been one of the most satisfactory because all the children of the Elementary School could take part. The large gymnasium is used and is decorated by groups of the older pupils with boughs of green brought by those boys and girls who live in the suburbs. The classes enter marching in turn, beginning with the little kindergarten children and ending with the upper grammar grades. After all are seated each class in turn takes the centre of the hall for a May dance or game. This party is the only one of the year in which all grades join, and the older pupils look with keen interest and applaud heartily the efforts of the little folks, who in their turn admiringly watch the larger boys and girls and strive to imitate them.

It will be seen from this brief sketch of our activities that the keynote of our school is social living. As far as possible our everyday work is based on the spirit of doing heartily and with the co-operation of every member of the class whatever duty is at hand. Our pupils are healthy, active, happy American boys and girls, and are to become, we hope, citizens in the true sense of the word. For such citizenship they need more than mere academic instruction. They are to take part in the manifold enterprises of the future in the midst of an exceedingly complex civilization. The need of the age is for earnest, broadminded men and women, who can join effectively in business and in recreation, who can bear criticism and profit by it, and who have many resources and many avenues of expression. To meet this need we should no longer train our pupils along the old scholastic lines. The evolution of the race is toward society as the unit, and though we as teachers must not lose sight of the individual, neither must we allow the individual to lose sight of his fellow-men, for through mutual service lies the best road to self-development.

L. E. R.

TIME SCHEDULE

Grade VII

Number of minutes per week devoted to various activities.

Literature	100
Language	140
Geography	120
History	120
Arithmetic	120
French	120
German	120
Manual Training	75
Art	40
Music	30
Physical Education	100
Recess	75
Opening Exercises	75

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